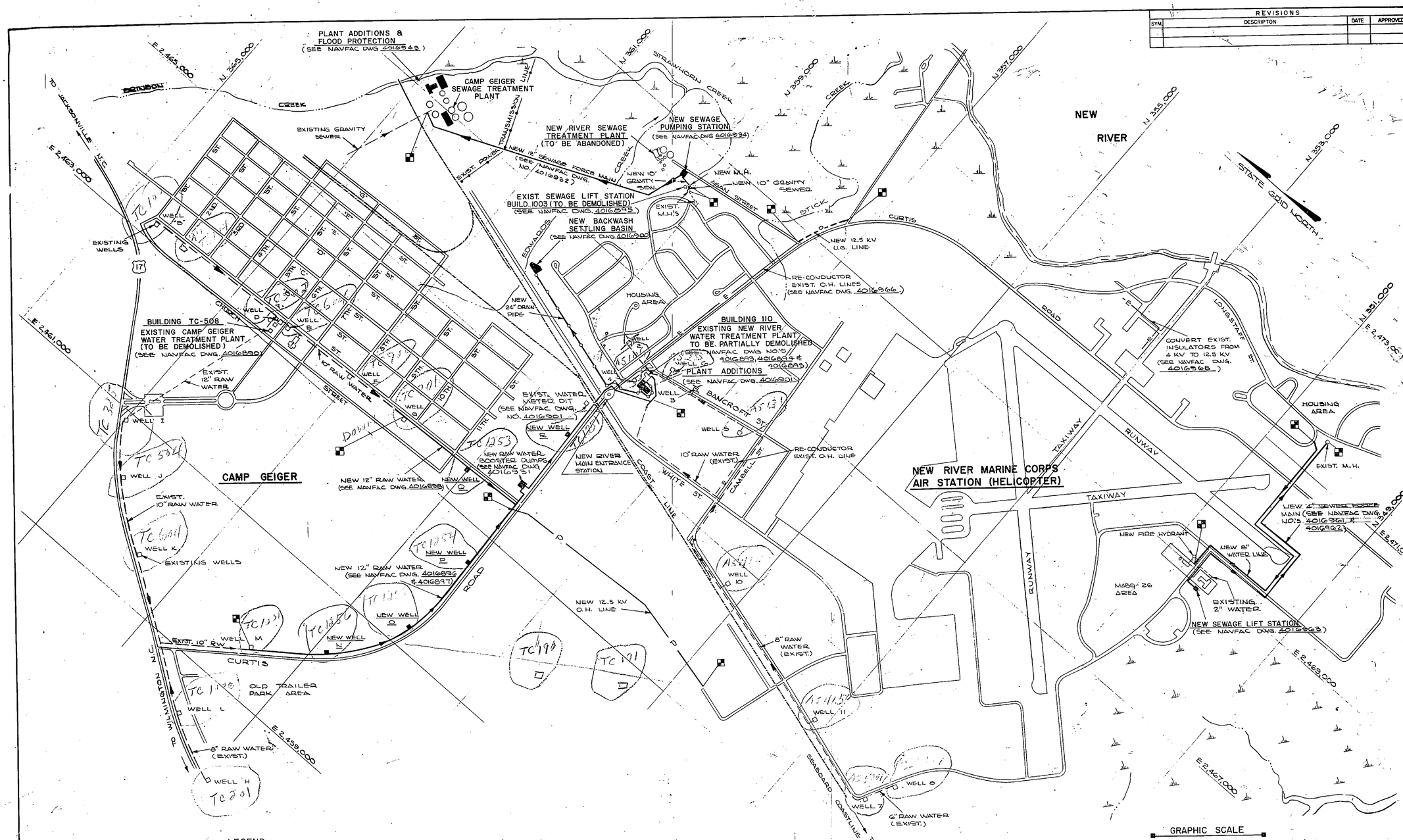
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



LEGEND

ITEM	EXISTING	NEW
UNDERGROUND PIPE LINE	----------	————
OVERHEAD PIPE LINE	---OH---	——OH——
STRUCTURES	▭	■
RAILROAD	-/-/-/-/-	
WELLS	□	■
OVERHEAD ELECTRICAL	——E——	——P——
UNDERGROUND ELECTRICAL	---E---	----P----

NOTES:

1) THE PURPOSE OF THIS DRAWING IS TO INDICATE GENERAL LOCATION AND SCOPES OF THE VARIOUS PARTS OF THIS PROJECT.
2) ARROWS DENOTE DIRECTION OF FLOW IN PIPE LINES.
3) COORDINATE SYSTEM IS THE NORTH CAROLINA STATE COORDINATE SYSTEM.
4) ■ INDICATES POINTS OF CONNECTION TO EXISTING UTILITY LINES.
5) SEE INDIVIDUAL DRAWINGS FOR BENCH MARKS
6) DATUM FOR ALL ELEVATIONS IS MEAN SEA LEVEL.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. W.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR J. Davis, P.E.
APPROVED DATE 9/20/74
OFFICER-IN CHARGE
APPROVED DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

LOCATION PLAN

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4016887

CONSTR. CONTR. NO. N62470-73-B-1155
SCALE: 1"=500' SPEC. 05-73-1155 SHEET 1 OF 83
E.F.D. NO. 118887

BORINGS 1 - 5 NOT USED FOR THIS PROJECT

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

BORING NO. 1
ELEV. 20.0

DEPTH	DESCRIPTION	N*
2.0	TOPSOIL	
	GRAY AND BROWN MOTTLED CLAY, TRACE OF FINE SAND	7
6.0	GRAY CLAY, TRACE OF ORGANIC AT 9'	3*
		1*
		1
	WOOD AT 15'	WOH
18.0	LIGHT GRAY SILTY FINE SAND	15
		4
28.0	LIGHT GRAY CLAYEY SAND AND SHELL FRAGMENTS, PARTIALLY CEMENTED	11
		14
		26
		34
		17
		16
57.0	GREENISH-GRAY SILTY FINE SAND, TRACE OF SHELL	25
		23
		21
		31
80.0	BORING TERMINATED @ 80.0 FT.	75

WATER DATA: 4 FT. @ COMPLETION 3 FT. AFTER 24 HOURS.

BORING NO. 2
ELEV. 19.75

DEPTH	DESCRIPTION	N*
1.0	TOPSOIL	
3.0	GRAY AND BROWN MOTTLED SANDY CLAY	4
	GRAY CLAY	3
		WOH
	WOOD AT 15'	1
17.0	GRAY SILTY FINE SAND	11
		5
28.0	LIGHT GRAY CLAYEY SAND AND SHELL FRAGMENTS, PARTIALLY CEMENTED	9
		14
		16
		32
47.0	GREENISH GRAY SILTY FINE SAND, TRACE OF SHELL	24
55.0	BORING TERMINATED @ 55.0 FT.	24

WATER DATA: 10 FT. @ COMPLETION 4 FT. AFTER 24 HOURS.

BORING NO. 3
ELEV. 20.5

DEPTH	DESCRIPTION	N*
0.5	TOPSOIL	
1.0	GRAY AND BROWN MOTTLED SANDY CLAY	5
4.0	GRAY CLAY	3
	THIN LAYER OF SILTY SAND AT 10'	1
		2
19.5	GRAY SILTY SAND, TRACE OF WOOD AT 20'	3
		9
29.0	LIGHT GRAY CLAYEY SAND AND SHELL FRAGMENTS, PARTIALLY CEMENTED	21
		11
		21
		22
48.0	GREENISH GRAY SILTY SAND, TRACE OF SHELL	19
		10
		23
60.0	BORING TERMINATED @ 60.0 FT.	

WATER DATA: 8 FT. @ COMPLETION.

BORING NO. 4
ELEV. 20.0

DEPTH	DESCRIPTION	N*
0.5	TOPSOIL	
4.0	GRAY AND BROWN MOTTLED CLAY	5
	GRAY CLAY	2
		2
	TRACE OF WOOD AT 15'	1
17.0	LIGHT GRAY FINE SAND	7
		12
28.0	LIGHT GRAY CLAYEY SAND AND SHELL FRAGMENTS, PARTIALLY CEMENTED	7
		27
		20
		38
		20
52.0	GREENISH GRAY SILTY SAND, TRACE OF SHELL	31
55.0	BORING TERMINATED @ 55.0 FT.	

WATER DATA: DRILLING WATER FILLED HOLE.

BORING NO. 5
ELEV. 19.0

DEPTH	DESCRIPTION	N*
0.8	TOPSOIL	
	GRAY AND BROWN MOTTLED CLAY, TRACE OF SAND	3
		31
8.0	GRAY CLAY WOOD AT 9' AND 14'	21
		3
18.0	GRAY SILTY SAND	8
		4'
27.0	LIGHT GRAY CLAYEY SAND AND SHELL PARTICLES, PARTIALLY CEMENTED	15
		18
		31
		17
54.0	GREENISH GRAY CLAY VERY STIFF, BRITTLE	55
55.0	BORING TERMINATED @ 55.0 FT.	

WATER DATA: 6 FT. @ COMPLETION 3.5 FT. @ 24 HOURS.

BORING NO. 10
ELEV. 18.0

DEPTH	DESCRIPTION	N*
0.5	TOPSOIL	
3.0	LIGHT GRAY FINE SAND (POSSIBLE FILL)	11
	GRAY SILTY FINE SAND	3
		5
12.0	LIGHT GRAY FINE TO MEDIUM SAND	20
16.0	GREENISH GRAY CLAYEY FINE SAND	3
23.0	GREENISH GRAY SILTY FINE SAND	4
28.0	LIGHT GRAY CLAYEY SAND AND SHELL FRAGMENTS, PARTIALLY CEMENTED	19
		27
		20
		32
49.0	GREENISH GRAY SILTY SAND, TRACE OF SHELLS	25
50.0	BORING TERMINATED @ 50.0 FT.	

WATER DATA: 7.0 FT. @ COMPLETION 4.0 FT. AFTER 24 HOURS.

BORING NO. 11
ELEV. 17.50

DEPTH	DESCRIPTION	N*
0.6	1" BITUMINOUS PAVEMENT, 6" SAND CLAY & GRAVEL	
3.5	GRAY CLAYEY SAND	3
6.0	LIGHT GRAY SILTY SAND	6
	GRAY CLAYEY SAND WITH INTERBEDDED CLAY	2
12.0	BROWN COURSE SAND WITH INTERBEDDED GRAY SILTY SAND	5
17.0	GREENISH GRAY CLAYEY SAND	2
22.0	GREENISH GRAY SILTY SAND	4
26.5	LIGHT GRAY CLAYEY SAND AND SHELL PARTICLES, PARTIALLY CEMENTED	19
		16
		20
		24
48.0	GREENISH GRAY SILTY SAND	10
		19
60.0	BORING TERMINATED @ 60.0 FT.	25

WATER DATA: 2.5 FT. @ COMPLETION HOLE FILLED.

BORING NO. 15
ELEV. 6.0

DEPTH	DESCRIPTION	N*
0.7	TOPSOIL	
	LIGHT GRAY FINE SAND	13
		8
7.0	BROWN SILTY SAND GRAY MOTTLING AT 7 TO 10 FT.	2
		1
18.0	GRAY SILTY SAND, THIN LAYERS OF SOFT CLAY	WOH
22.0	LIGHT GRAY CLAYEY SAND AND SHELL FRAGMENTS, PARTIALLY CEMENTED	
25.0	BORING TERMINATED @ 25.0 FT.	26

WATER DATA: 5.5 FT. @ COMPLETION 3 FT. @ 8 HOURS.

BORING NO. 20
ELEV. 5.0

DEPTH	DESCRIPTION	N*
0.5	BR. SAND & GRAVEL	
2.0	BROWN SILTY SAND	
3.5	GRAY SILTY SAND	7
5.5	BLACK SANDY CLAY	1*
	GRAY SANDY CLAY WITH WOOD	4
		3
14.5	BROWN SAND	5
		3
24.0	LIGHT GRAY SAND, PARTIALLY CEMENTED, TRACE OF SHELLS	16
		23
32.0	GREENISH GRAY CLAYEY SAND	7
		7
		8
48.0	LIGHT GRAY PARTIALLY CEMENTED SAND	27
52.0	GREENISH GRAY SILTY SAND	17
		44*
		16
67.0	GREENISH GRAY CLAY, SOME VERY FINE SAND	19
75.0	BORING TERMINATED @ 75.0 FT.	18

WATER DATA: 2 FT. @ COMPLETION.

BORING NO. 21
ELEV. 3.0

DEPTH	DESCRIPTION	N*
0.7	TOPSOIL	
3.5	SAND & GRAVEL FILL	8
	GRAY SILTY SAND	5*
	LIGHT GRAY SAND	5
	WOOD & ORGANIC MATTER 9' & 14'	4
14.0	BROWN & GRAY SANDY CLAY AND CLAYEY SAND	1
19.5	LIGHT GRAY PARTIALLY CEMENTED SAND	4
		41
27.0	GREENISH GRAY CLAYEY SAND, TRACE OF SHELLS	10
		6
		7
43.0	LIGHT GRAY SAND & SHELLS	26
		21
51.0	GREENISH GRAY SILTY SAND	16
55.0	BORING TERMINATED @ 55.0 FT.	

WATER DATA: 3 FT. @ COMPLETION.

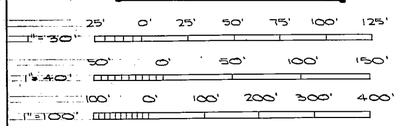
BORING NO. 22
ELEV. 5.0

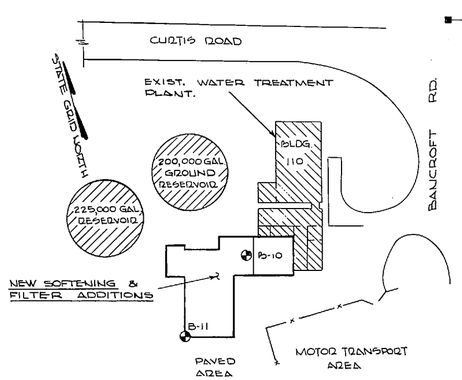
DEPTH	DESCRIPTION	N*
	GRAY SANDY, CLAY & GRAVEL, ORGANIC	5
3.5	LIGHT GRAY SAND	5
	WOOD AT 9'	7
	ORGANIC MATTER AT 14' & 19'	8
		4
24.0	LIGHT GRAY SAND, PARTIALLY CEMENTED	37
29.5	GREENISH GRAY CLAYEY SAND	22
		6
		7
		7
48.0	LIGHT GRAY SAND & SHELLS, PARTIALLY CEMENTED	24
52.5	GREENISH GRAY SILTY SAND	15
55.0	BORING TERMINATED @ 55.0 FT.	

WATER DATA: 3 FT. @ COMPLETION.

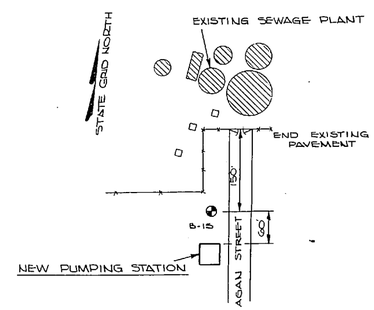
BORING LOGS
VERTICAL SCALE: 1" = 5'

GRAPHIC SCALE

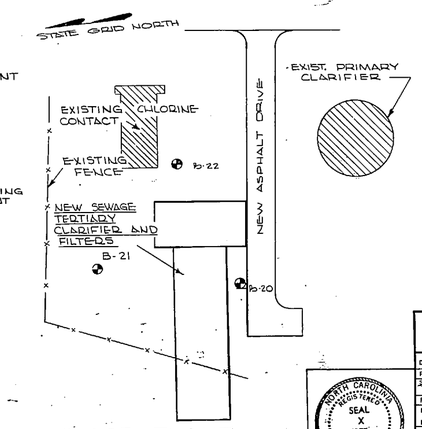




WATER TREATMENT PLANT
(NEW RIVER MCAS)
SCALE: 1" = 40'



SEWAGE PUMPING STATION
(NEW RIVER MCAS)
SCALE: 1" = 100'



SEWAGE PLANT
(CAMP GEIGER)
SCALE: 1" = 30'

NOTES

1. "N" = BLOWS PER FOOT BASED ON 2" O.D., 1 3/8" I.D. SAMPLING SPOON WITH 140 LB. HAMMER FALLING 30".
2. THE BORINGS WERE MADE BY MEANS OF CONTINOUS-FLIGHT, HOLLOW-STEM AUGER DRIVEN BY A TRUCK-MOUNTED DRILL.
3. ALL DEPTHS AND LOCATIONS ARE APPOXIMATE.
4. BORINGS DRILLED BY FROEHLING & ROBERTSON IN JUNE, 1973.
5. TYPICAL WATER DATA NOTE "3.5' @ 24 HOURS" MEANS THE FREE WATER LEVEL IN THE HOLE 24 HOURS AFTER DRILLING WAS 3.5' FROM THE SURFACE.
6. ABBREVATIONS: "ELEV." - ELEVATION, "WOH" - WEIGHT OF HAMMER.
7. UNABLE TO RECOVER SAMPLE INDICATED THIS *.
8. BORINGS LOCATED THUS: B-20

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

UTILITIES EXPANSION

BORINGS AND LOCATIONS

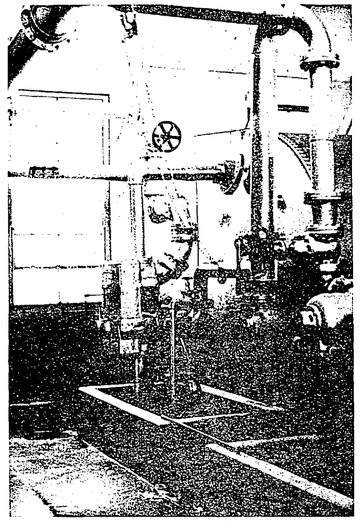
DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.	
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.	
SUBMITTED BY: M. K. Brand DATE 9/12/74	
FIRM MEMBER / PRINCIPAL	
EFD RVD	
HD DIR. J. Davis	
APPROVED Walsh DATE 7/29/74	
OFFICER IN CHARGE	
APPROVED FOR EFD FOR COMMANDER NAVFAC DATE 14 NOV 1974	

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. TIMMONS

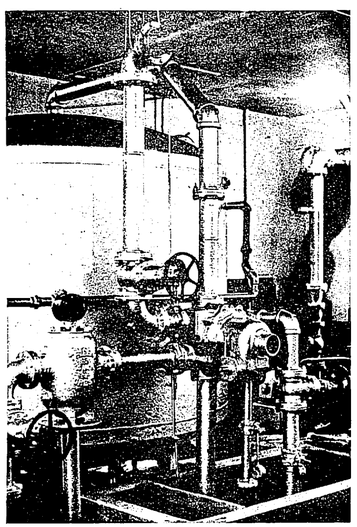
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016888
		CONSTR. CONTR. NO. 1162470-73-B-1155
SCALE	SPEC.	SHEET 2 OF 83

E.F.D. NO. 116888

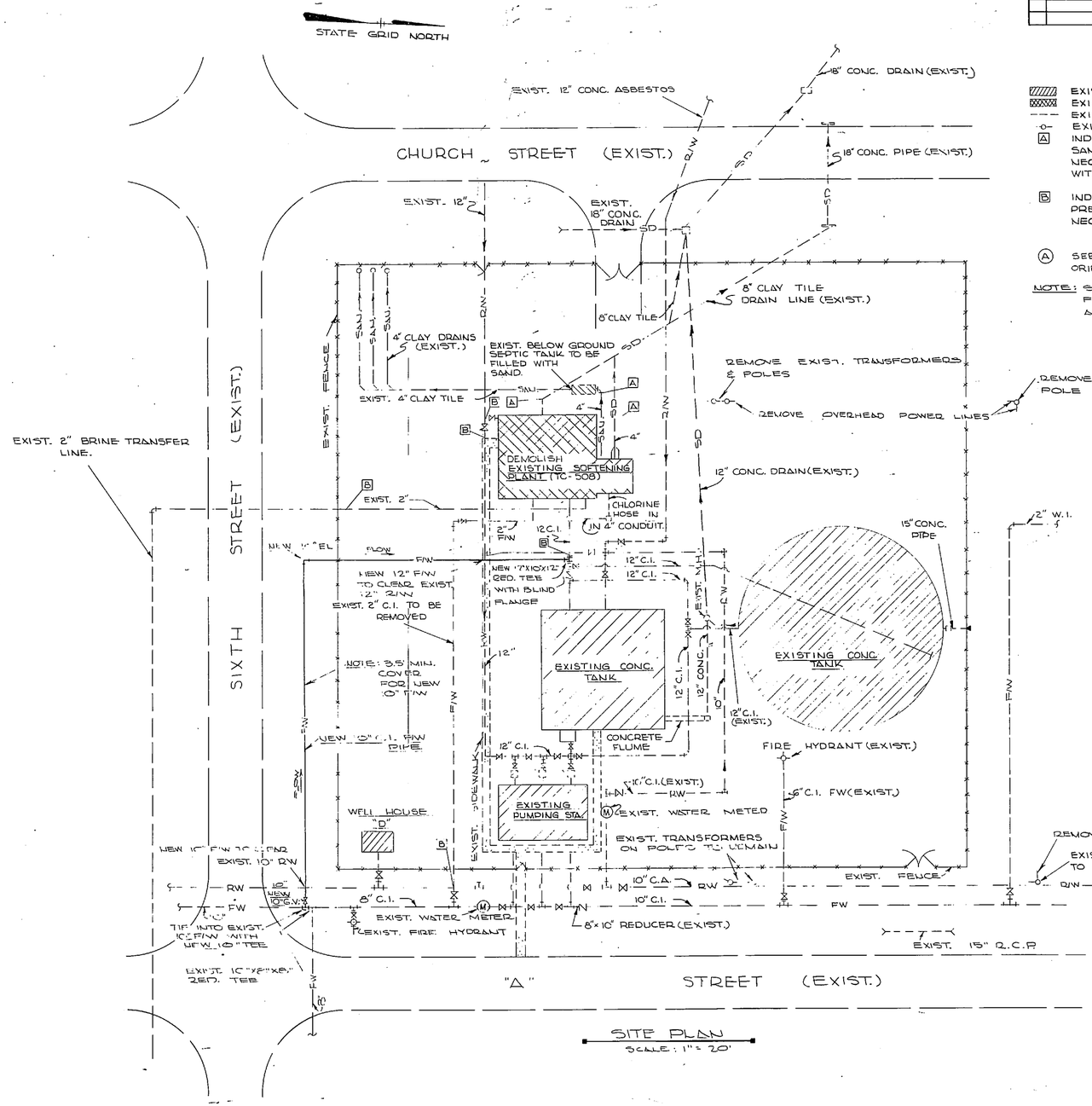
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



Ⓐ PRESSURE FILTER LOOKING NORTH WEST



Ⓑ SOFTENING TANK LOOKING SOUTH

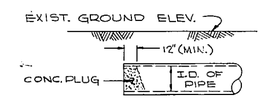


SITE PLAN
SCALE: 1" = 20'

LEGEND

- EXIST. STRUCTURES TO REMAIN.
- EXIST. STRUCTURES TO BE DEMOLISHED.
- EXIST. UNDERGROUND WATER LINES.
- EXIST. OVERHEAD ELECTRICAL LINES.
- Ⓐ INDICATES POINT AT WHICH DRAIN AND SANITARY LINES ARE TO BE DISCONNECTED AND PLUGGED IN ACCORDANCE WITH DETAIL A OF THIS SHEET.
- Ⓑ INDICATES POINT AT WHICH WATER PRESSURE LINES ARE TO BE DISCONNECTED AND CAPPED.
- Ⓐ SEE NAVFAC DWG. NO. 4016892 FOR ORIENTATION OF PHOTOGRAPHS.

NOTE: SEE NAVFAC DWG. NO. 4016888 FOR PIPING SYMBOLS & ABBREVIATIONS.



TYPICAL CONC. PLUG FOR SANITARY AND DRAIN PIPES.

DETAIL "A"
NO SCALE

DEMOLITION NOTES

1. BUILDING TC-508 IS TO BE COMPLETLY DEMOLISHED AND OUTSIDE PIPING REMOVED AND CAPPED OR PLUGGED AT THE POINTS INDICATED.
2. PHOTOGRAPHIC REPRODUCTIONS ARE OF BUILDING TC-508. ALL EQUIPMENT SHOWN IS TO BE REMOVED.

GRAPHIC SCALE

1" = 20' 25' 0' 25' 50' 75'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 ENGINEER W. TIMMONS

J. K. TIMMONS & ASSOC., INC
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.L.
SUBMITTED BY: DATE 5/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR
APPROVED DATE
OFFICER IN CHARGE
APPROVED: DATE 4 Nov 1974
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.

NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

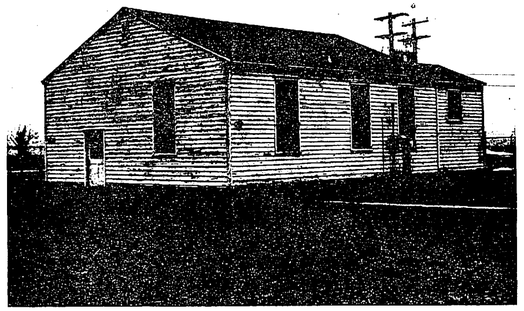
UTILITY EXPANSION

CAMP GEIGER
DEMOLITION (BUILD. TC-508) & NEW 12" WATER

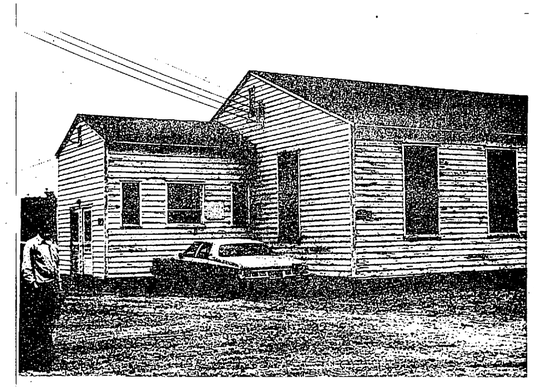
SIZE	CONR DRGT. NO.	NAVFAC DRGNG NO.
F	80091	4016890
	CONSTR. CONTR. NO.	N62470-73-B-1155
SCALE AS SHOWN	SPEC. 05-73-1155	SHEET 4 of 83

E.F.D. NO. 116890

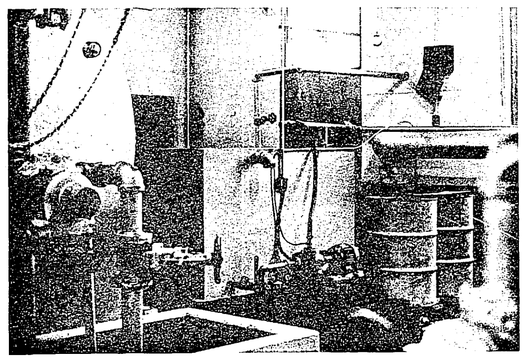
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



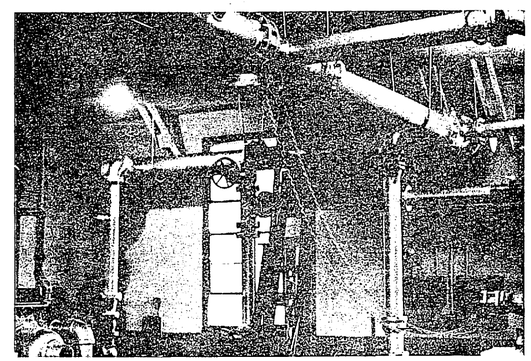
(C) EXTERIOR BUILDING NO. TC-508 LOOKING NORTH WEST.



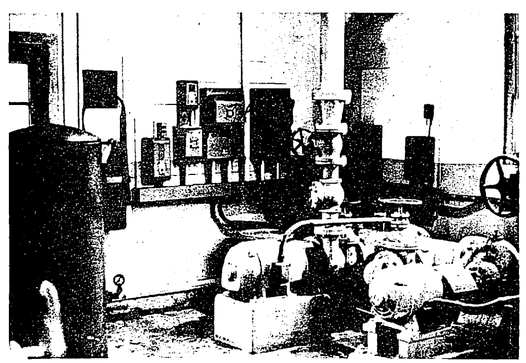
(F) EXTERIOR OF BUILDING LOOKING SOUTH EAST.



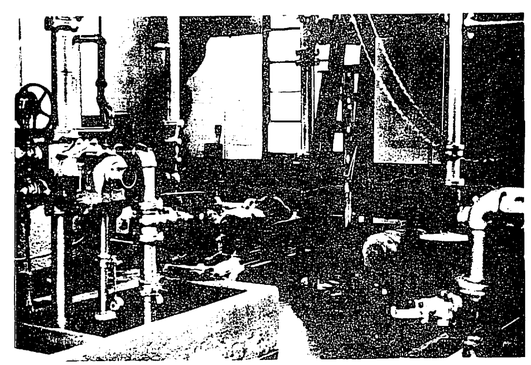
(D) CONCRETE BRINE TANK LOOKING NORTH EAST.



(G) OVERHEAD VALVES AND PIPING LOOKING WEST.



(E) FILTER PUMPS LOOKING SOUTH WEST.



(H) FILTER PUMPS AND PIPING LOOKING WEST.

NOTE: SEE NAVFAC DWG. 4016892 FOR LOC. FROM WHICH PHOTOGRAPHS WHERE TAKEN.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

UTILITY EXPANSION

CAMP GEIGER
DEMOLITION (BUILD TC-508)

DES. M.L.E. DR. C.L. / CB&K M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: M. L. Elliott DATE 9/16/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR. J. Davis
APPROVED: DATE 7/29/74
OFFICER-IN CHARGE
APPROVED: DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

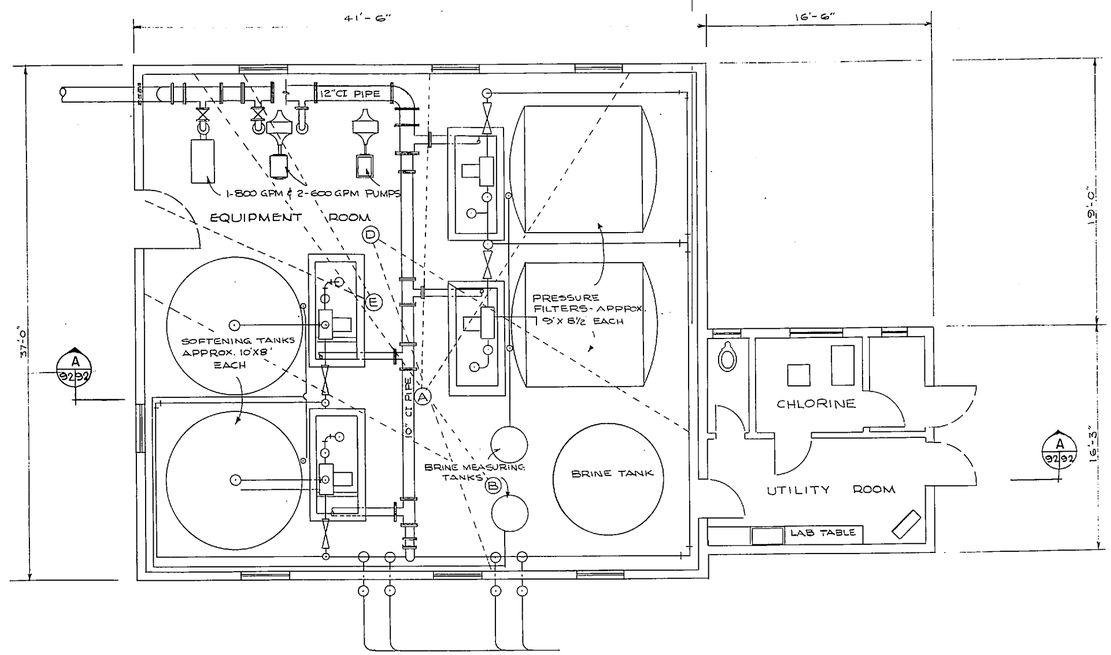
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016891
CONTR. CONTR. NO. N62470-73-B-1155		
SCALE AS SHOWN	SPEC. 05-73-1155	SHEET 5 OF 83

E.F.D. NO. 116891

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

LEGEND

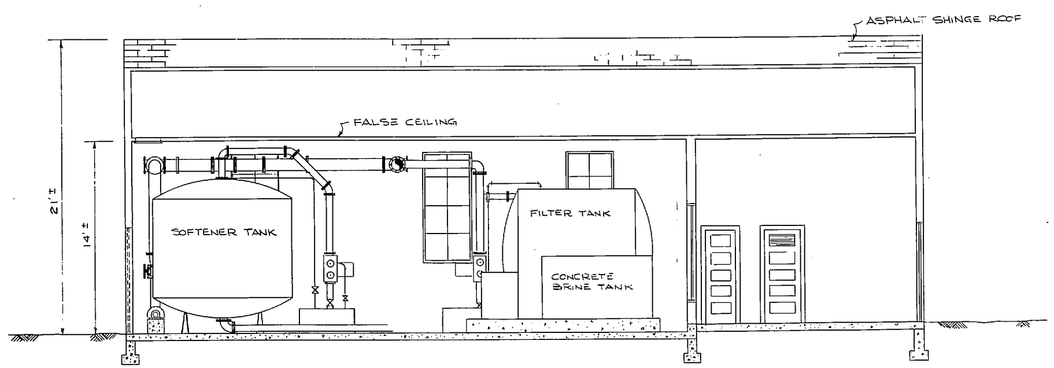
(A) DASHED LINES INDICATE AREA SHOWN BY PHOTOGRAPHS.



PLAN-TC-508

SCALE: ¼" = 1'-0"

NOTE: ONLY MAJOR PIPING IS SHOWN.



SECTION (A) 92/92

SCALE: ¼" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

GRAPHIC SCALE

1/4" = 1'-0" 5' 0' 5' 10' 15'

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

CAMP GEIGER
DEMOLITION (BUILD. TC-508)

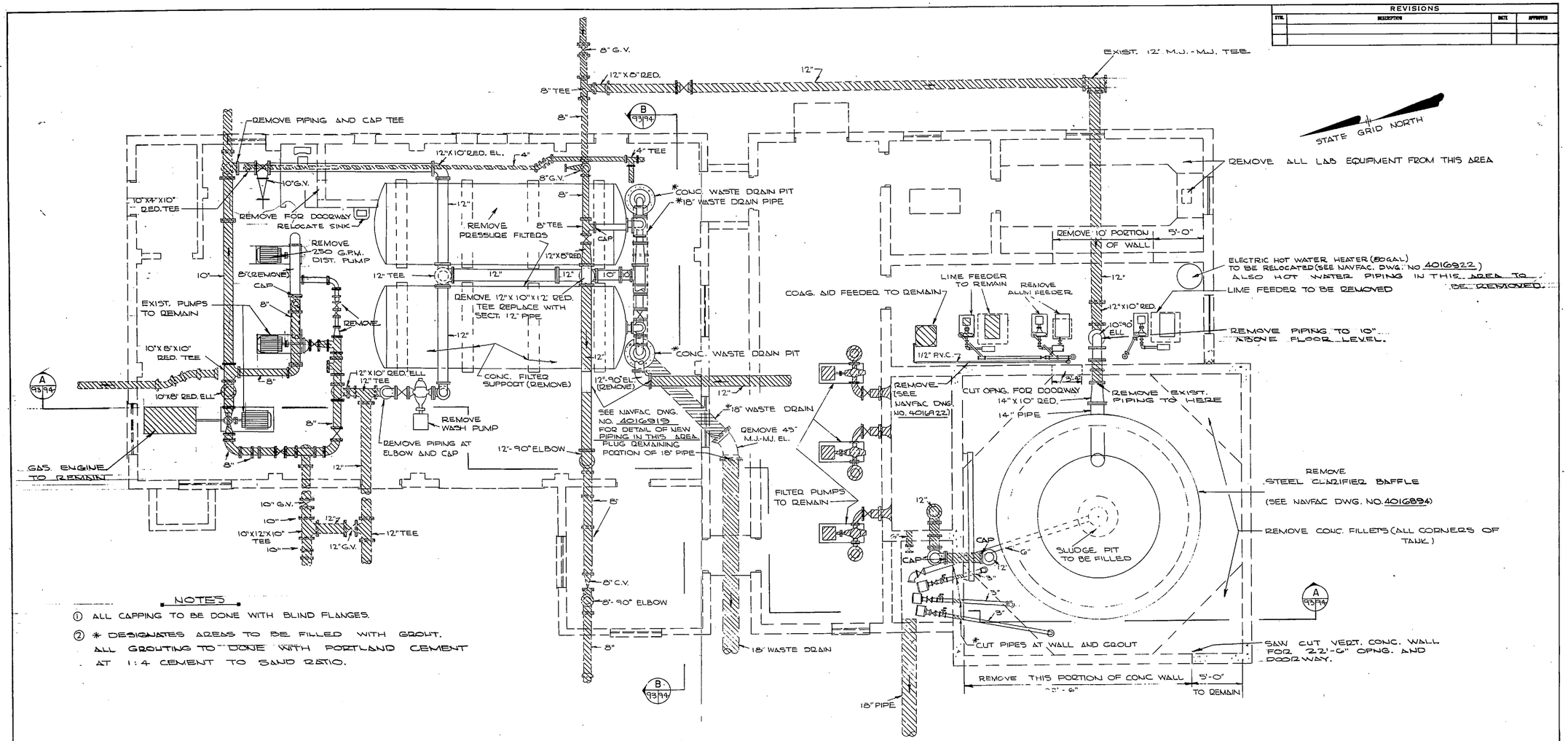
DES.	M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR.	M.L.E. CH. ENGR. J.L.L.
SUBMITTED BY:	DATE 9/12/74
FIRM MEMBER	PRINCIPAL
EFD	RVD
HD	DIR
APPROVED	DATE 9/20/74
OFFICER IN CHARGE	
APPROVED:	DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC	

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016892
	CONTR. CONTR. NO.	
SCALE AS SHOWN	SPEC. 05-73-1[illegible]	SHEET 6 of 83

E.F.D. NO. 116892

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTES

① ALL CAPPING TO BE DONE WITH BLIND FLANGES.

② * DESIGNATES AREAS TO BE FILLED WITH GROUT. ALL GROUTING TO DONE WITH PORTLAND CEMENT AT 1:4 CEMENT TO SAND RATIO.

FLOOR PLAN (EXISTING BLDG.)

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

1/4" = 1'-0" 5' 0' 5' 10' 15'

LEGEND

PIPING AND EQUIPMENT TO REMAIN IN PLACE

PIPING AND EQUIPMENT TO BE REMOVED (UNLESS NOTED OTHERWISE)

NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ADDITIONAL ABBREVIATIONS & LEGEND.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.L.H.
SUBMITTED BY: DATE 5/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DR
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

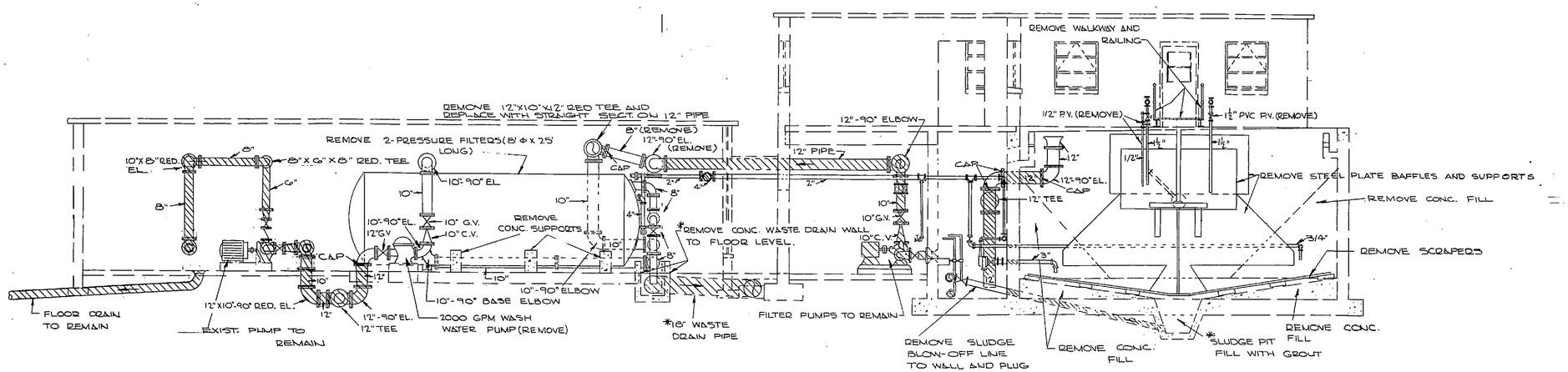
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.
NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

NEW RIVER
DEMOLITION (BUILD. 110)

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016893
		CONTR. CONTR. NO.
SCALE AS SHOWN	SPEC.	SHEET 7 OF 83

E.F.D. NO. 116893

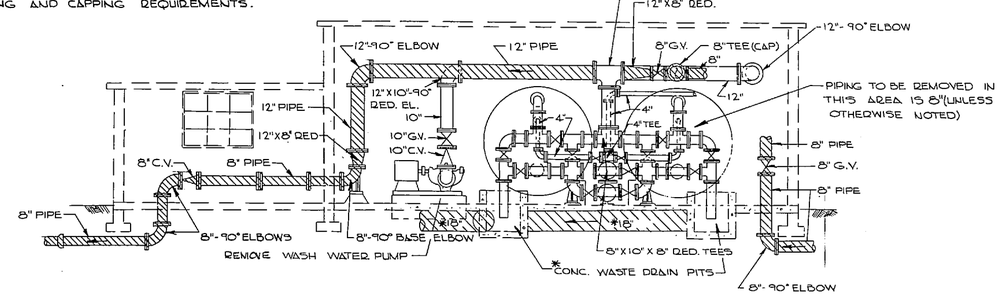
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



SECTION A 93/94

SCALE: 1/4" = 1'-0"

NOTE: SEE NAVFAC DWG. NO. 4016893 FOR GROUTING AND CAPPING REQUIREMENTS.



SECTION B 93/94

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

5' 0' 5' 10' 15'

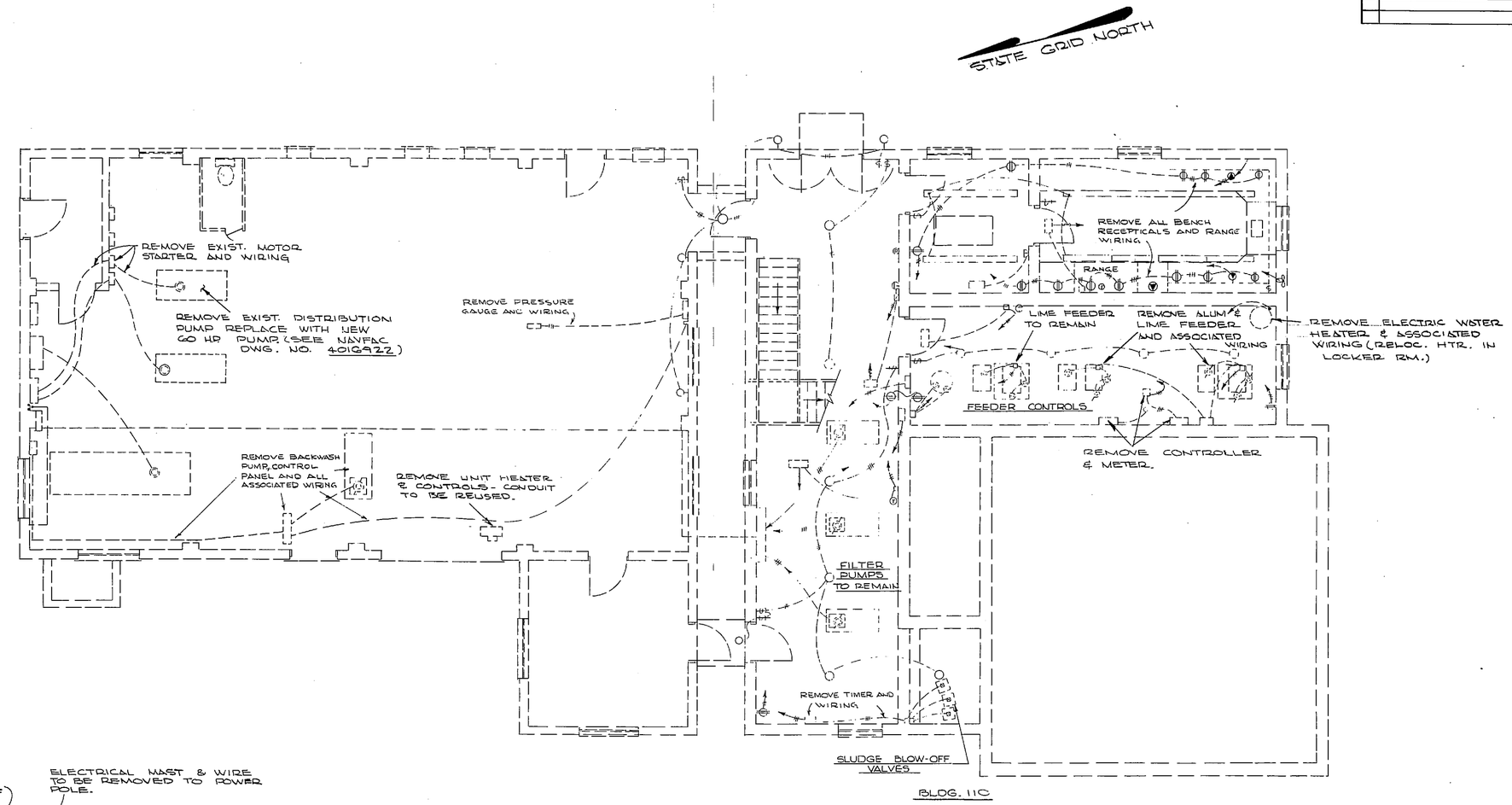
1/4" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

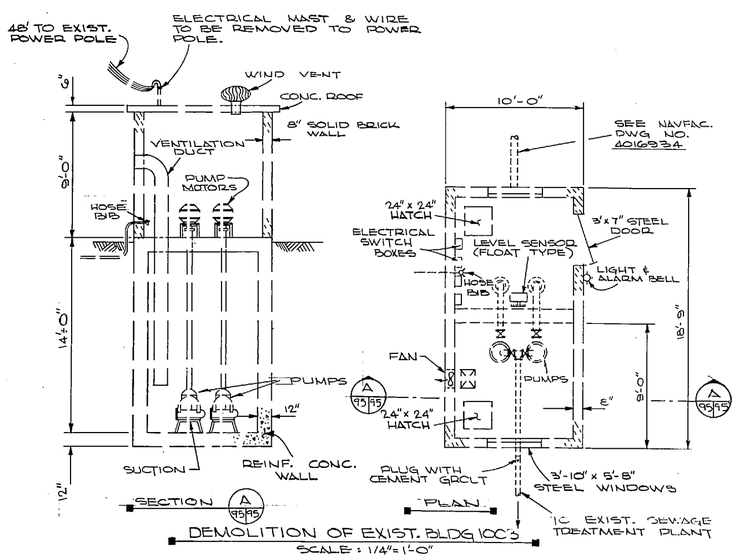
J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VA.
DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.	NEW RIVER MARINE CORPS AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.	UTILITY EXPANSION
SUBMITTED BY: M. L. Beard DATE 9/18/74	
FIRM MEMBER PRINCIPAL	
EFD RVD	NEW RIVER DEMOLITION (BUILD. 110)
HD J.K. DIR J. Deans	
APPROVED DATE 7/29/74	SIZE F · CODE IDENT. NO. 80091 · NAVFAC DRAWING NO. 4016894
OFFICER IN CHARGE	
APPROVED DATE 14 NOV 1974 FOR EFD FOR COMMANDER NAVFAC	CONSTR. CONTR. NO. 73-1125
	SCALE AS SHOWN · SPEC. 73-1125 · SHEET 8 of 83
	E.F.D. NO. 116894

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



EXIST. ELECTRICAL FLOOR PLAN

SCALE: 1/4" = 1'-0"



DEMOLITION OF EXIST. BLDG. 100'S

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

SCALE: 1/4" = 1'-0" 5' 0' 5' 10' 15'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ABBREV. & LEGEND.

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

DES. M.L.E. DR. C.L. / DB. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: DATE
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR. J. Davis
APPROVED — DATE
OFFICER IN CHARGE
APPROVED — DATE 1 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

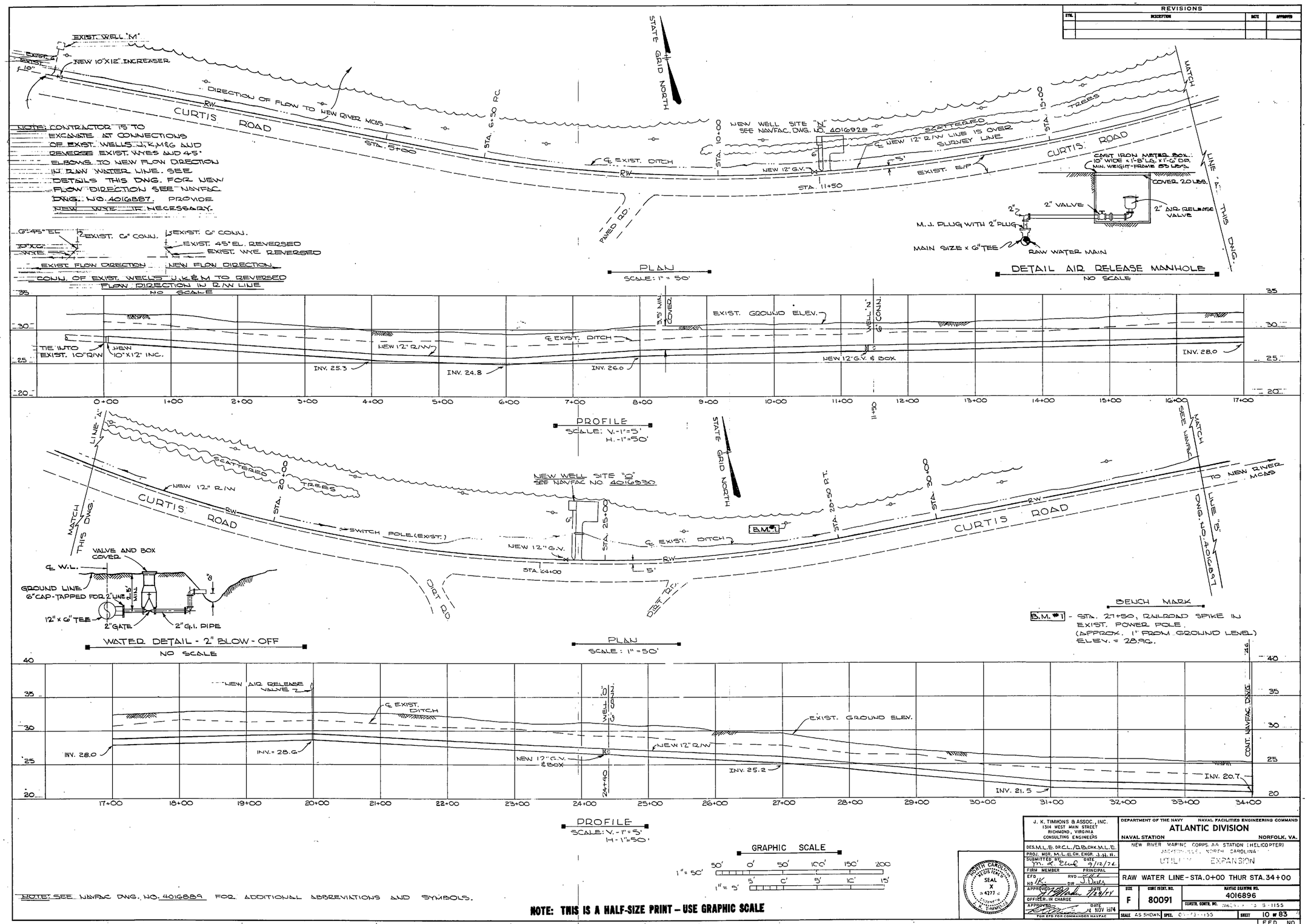
NEW RIVER
DEMOLITION (BUILD. 110B 1003)

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016895

CONSTR. CONTR. NO.
SCALE AS SHOWN — SPEC. — SHEET 9 of 83

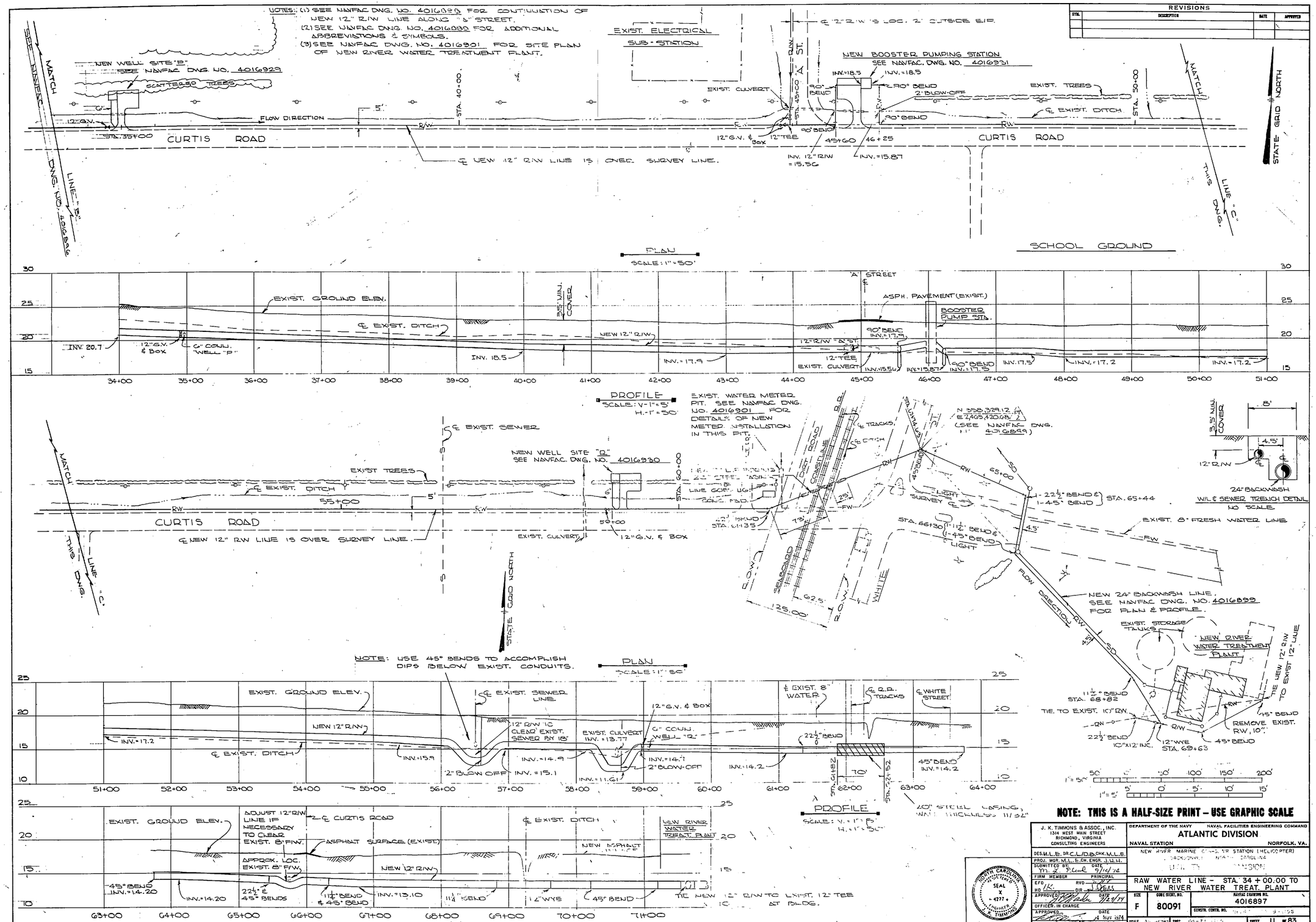
E.F.D. NO. 116895

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTES: (1) SEE NAVFAC DWG. NO. 4016889 FOR CONTINUATION OF NEW 12" R/W LINE ALONG "A" STREET.
(2) SEE NAVFAC DWG. NO. 4016880 FOR ADDITIONAL ABBREVIATIONS & SYMBOLS.
(3) SEE NAVFAC DWG. NO. 4016901 FOR SITE PLAN OF NEW RIVER WATER TREATMENT PLANT.

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.L.H.
SUBMITTED BY: Yn. L. Beal 9/16/74
FIRM MEMBER — PRINCIPAL
EFD: RVD
HD: DIR
APPROVED: 9/24/74
OFFICER-IN CHARGE
APPROVED: 14 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

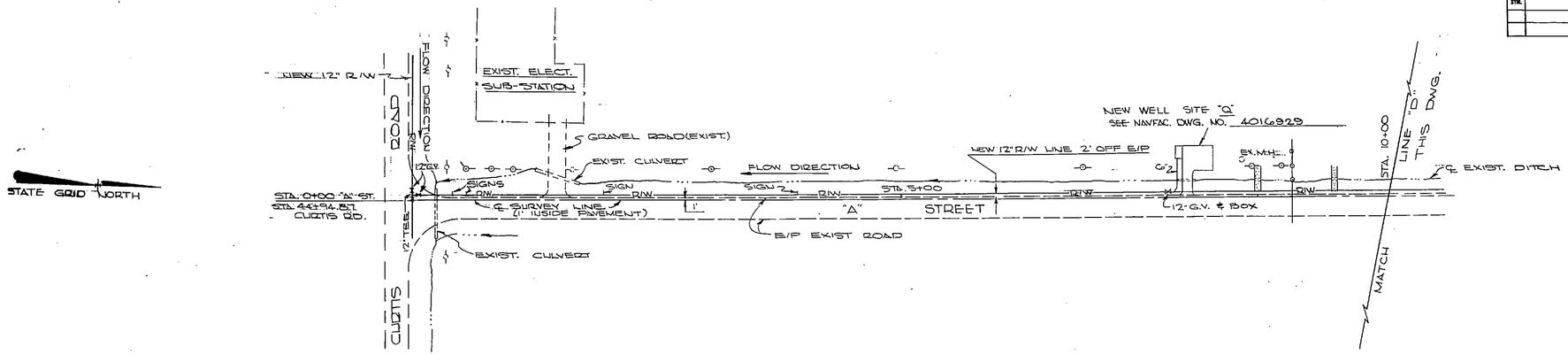
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 4277 J. K. TIMMONS

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
RAW WATER LINE – STA. 34 + 00.00 TO NEW RIVER WATER TREAT. PLANT

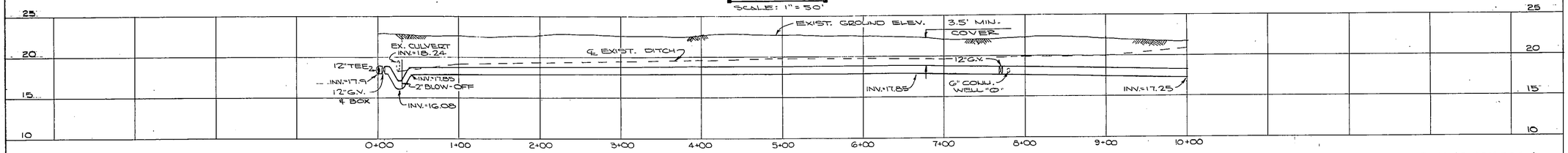
SIZE	CONS. CONTRACT NO.	NAVFAC DRAWING NO.
F	80091	4016897
		CONSTR. CONTR. NO.

SCALE: AS NOTED SPEC. 00-72-1156 SHEET 11 of 83
E.F.D. NO. 116897

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

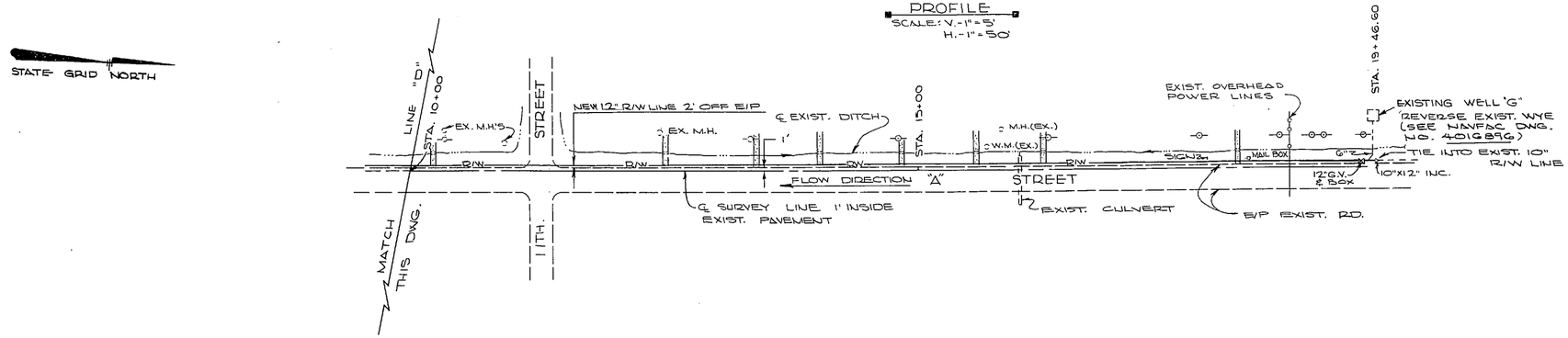


PLAN
SCALE: 1" = 50'

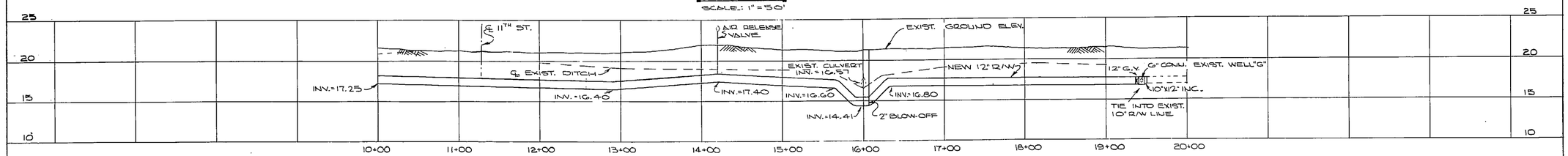


PROFILE
SCALE: V.-1" = 5'
H.-1" = 50'

NOTES: (1) SEE NAVFAC DWG. NO'S 4016896 & 4016897 FOR CONTINUATION OF NEW 12" R/W LINE ALONG CURTIS RD.
(2) SEE NAVFAC DWG. NO. 4016889 FOR ADDITIONAL ABBREVIATIONS AND SYMBOLS.



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: V.-1" = 5'
H.-1" = 50'

GRAPHIC SCALE

1" = 50' 50' 0' 50' 100' 150' 200'

1" = 5' 5' 0' 5' 10' 15'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.W.
SUBMITTED BY: M. L. Elliot DATE 9/16/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR
APPROVED DATE 12/1/74
OFFICER-IN CHARGE
APPROVED DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

RAW WATER LINE-STA. 0+00("A" STREET) & STA. 44+94.87 (CURTIS RD.) TO STA. 19+46.60

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016898

CONTR. CONTR. NO. 65-73-45 73 9-1155
SCALE AS SHOWN SPEC. 65-73-45 SHEET 12 OF 83

E.F.D. NO. 116898

NORTH CAROLINA STATE GRID COORDINATES

NR.-11 N359,287.47 E 2,465,719.47
NR.-20 N360,194.28 E 2,465,985.05
NR-10 N358,275.80 E 2,465,393.41

STATE GRID NORTH

E2,466,000.00

N359,000.00

NEW RIVER WATER TREATMENT PLANT

CHISLED X TOP CONC. CURB.

HUB & TACK
STA. 19+50.29
PT#2

GUY POLE R/E

EXIST. STORAGE TANKS

NOTES: (1) SEE NAVFAC DWG. NO. 4016901 FOR WATER TREATMENT PLANT SITE PLAN.
(2) SEE NAVFAC DWG. NO. 4016889 FOR ADDITIONAL ABBREVIATIONS AND SYMBOLS.
(3) FILL IN THIS AREA TO A MIN. OF 2' (TWO) COVER OVER 24" STORM DRAIN PIPE.

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

THIS DWG.

359,287.47 (10) NR-1.1
2,465,719.47

359,001.05 (9)
2,465,630.17

358,714.66 (8)
2,465,540.88

358,428.26 (7)
2,465,451.58

358,272.39 (6)
2,465,577.81

357,971.96 (5)
2,465,766.47

357,986.69 (4)
2,465,752.20

358,180.31 (5)
2,465,564.75

S 17° 18' 57" W
300.00'

S 17° 18' 57" W
300.00'

S 17° 18' 57" W
300.00'

S 33° 00' 04" E
200.57'

S 8° 04' 21" W
93.00

S 44° 04' 21" E
269.50'

FLOW DIRECTION

23' DIRT ROAD

WHITE STREET

SURVEY LINE "A" TO NR. 20 (SEE NAVFAC DWG. 4016890)

SURVEY LINE

EXIST. 8" F/W LINE (APPROX. LOC.)

CURTIS ROAD

℄ NEW 24" BACKWASH LINE IS OVER SURVEY LINE

NEW 12" R/W LINE SEE PLAN & PROFILE NAVFAC DWG. NO. 4016897.

E2,465,500.00

N359,000.00

MATCH LINE "E"

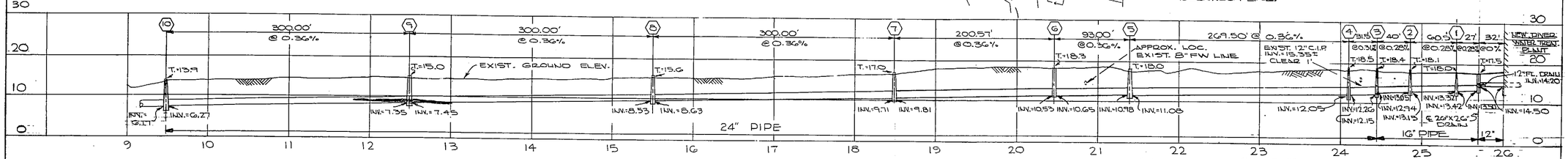
103.84'

NR. 10

NOTE: RAISE EXIST. 8" F/W LINE AS MUCH AS NECESSARY TO CLEAR NEW 24" BACKWASH LINE.

PLAN

SCALE: 1" = 50'



PROFILE

SCALE: V.-1" = 10' H.-1" = 50'

NOTE: FOR BACKWASH BASIN DETAILS SEE NAVFAC DWG. NO. 4016900

STATE GRID NORTH

3' WIDE CHANNEL

EDWARDS CREEK

FENCE

ENDWALL

INV. = 3.50

24" STUB

1% SLOPE

N359,786.81 E2,466,012.87 (13)

N359,700.38 E2,465,848.17 (12)

359,573.88 2,465,808.73 (11)

359,287.47 2,465,719.47 (10) NR-11

E2,465,500.00

N359,400.00

MATCH LINE "E" THIS DWG.

HUB & TACK
STA. 9+46.37
NR-11

℄ 3" IRON POLE

CHISLED SQ. IN CONC. SLAB

GRAPHIC SCALE
1" = 50'
50' 0' 50' 100' 150' 200'

NR 20

EXIST. 48" R.C.P.

BM. CG-4

N359,862.68 E2,465,898.76

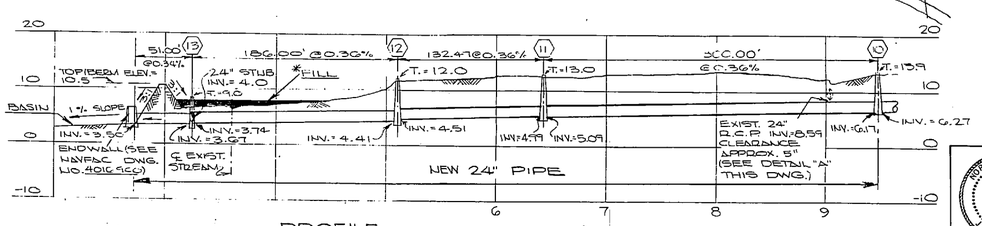
℄ 24 BACKWASH LINE IS OVER SURVEY LINE "B". EXIST. 24" CULVERT

WHITE STREET

S 17° 18' 44" W
132.47'

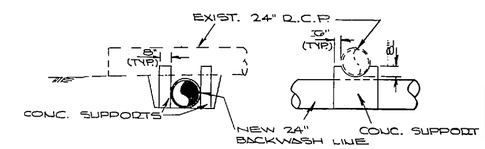
S 17° 18' 44" W
300.00'

GRAPHIC SCALE
1" = 50' 50' 0' 50' 100' 150' 200'
1" = 10' 10' 0' 10' 20'



PROFILE

SCALE: V.-1" = 10', H.-1" = 50'



DETAIL "A"

NO SCALE

BENCH MARK

B.M. CG-4 CHISELED SQUARE ON CONC. HEADWALL. ELEV. = 6.43

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED ENGINEER SEAL X 4277 X J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
ONSLOW COUNTY

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: M. L. Elder DATE 7/16/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR.
APPROVED — DATE 7/29/74
OFFICER IN CHARGE
APPROVED — DATE 1 NOV 1974
FOR CFO FOR COMMANDER NAVFAC

WATER PLANT BACKWASH LINE

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016899

CONTR. CONTR. NO.
SCALE AS SHOWN — SPEC. US-73-1-3 — SHEET 13 of 83

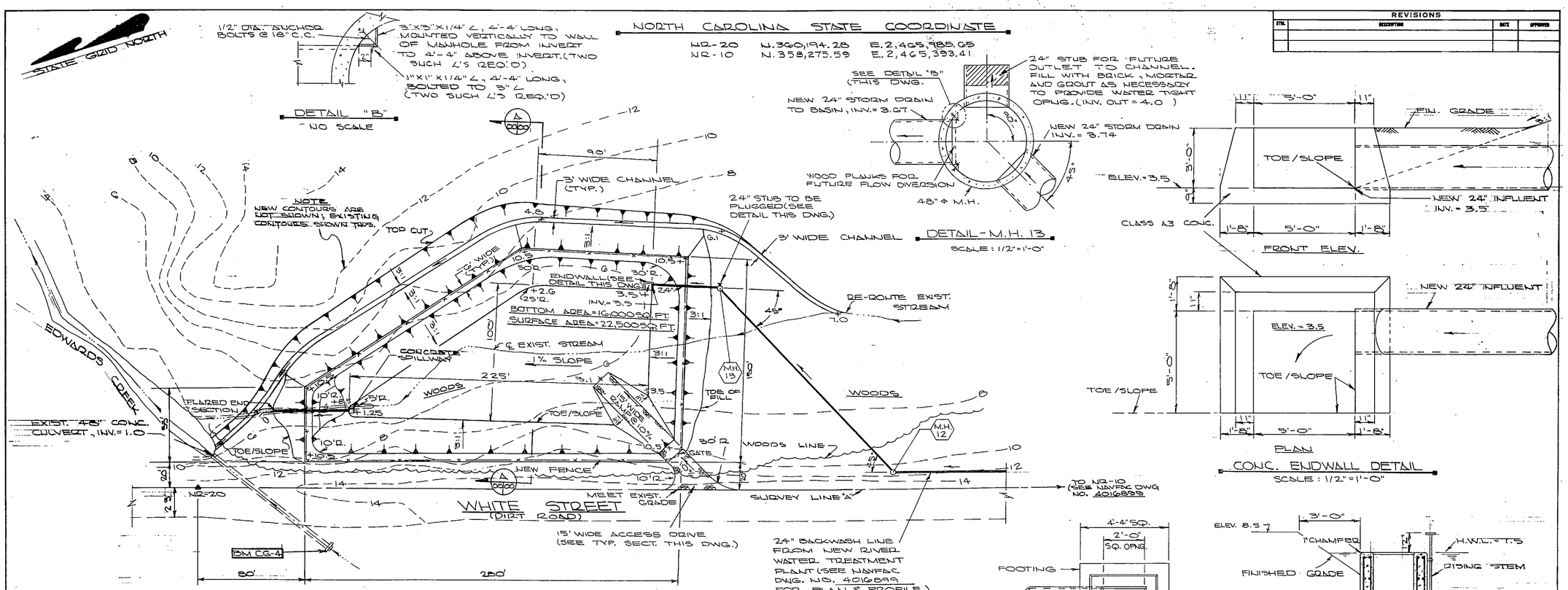
E.F.D. NO. 116899

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

STATE GRID NORTH

NORTH CAROLINA STATE COORDINATE

NR-20	N.360,194.28	E.2,465,985.65
NR-10	N.358,275.59	E.2,465,393.41



NOTE: CLEAR AND GRADE TO LIMITS OF TOP OF CUTS AND TOE OF FILLS. TOPSOIL AND SEED ALL CUT AND FILL SLOPES, AND TOP OF BERM. BOTTOM OF BASIN AND CHANNEL ARE NOT TO BE TOPSOILED OR SEEDED.

NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ABBREVIATIONS AND LEGEND.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: M. L. Elrod DATE: 9/16/74
FIRM MEMBER PRINCIPAL
EFD RVD
NS DIR
APPROVED DATE
OFFICER-IN-CHARGE
APPROVED 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. HARRY HAYNES

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

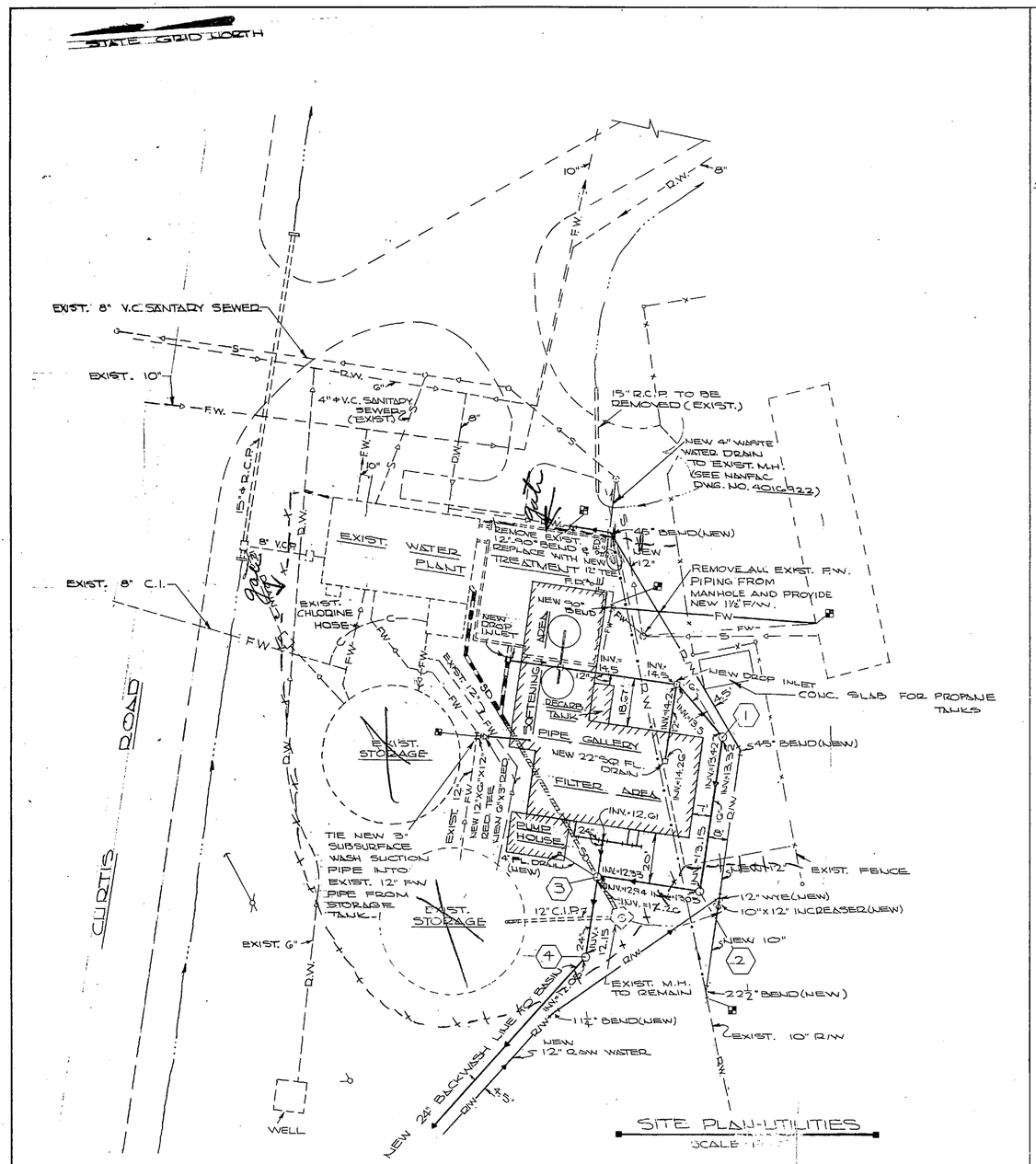
NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

UTILITY EXPANSION

NEW RIVER - BACKWASH BASIN PLAN, SECTIONS & DETAILS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016900
	CONTR. CONTR. NO.	N62470-73-B-1155
SCALE AS SHOWN	SPEC. 05-73-1155	SHEET 14 of 83

E.F.D. NO. 116900



SITE PLAN-UTILITIES

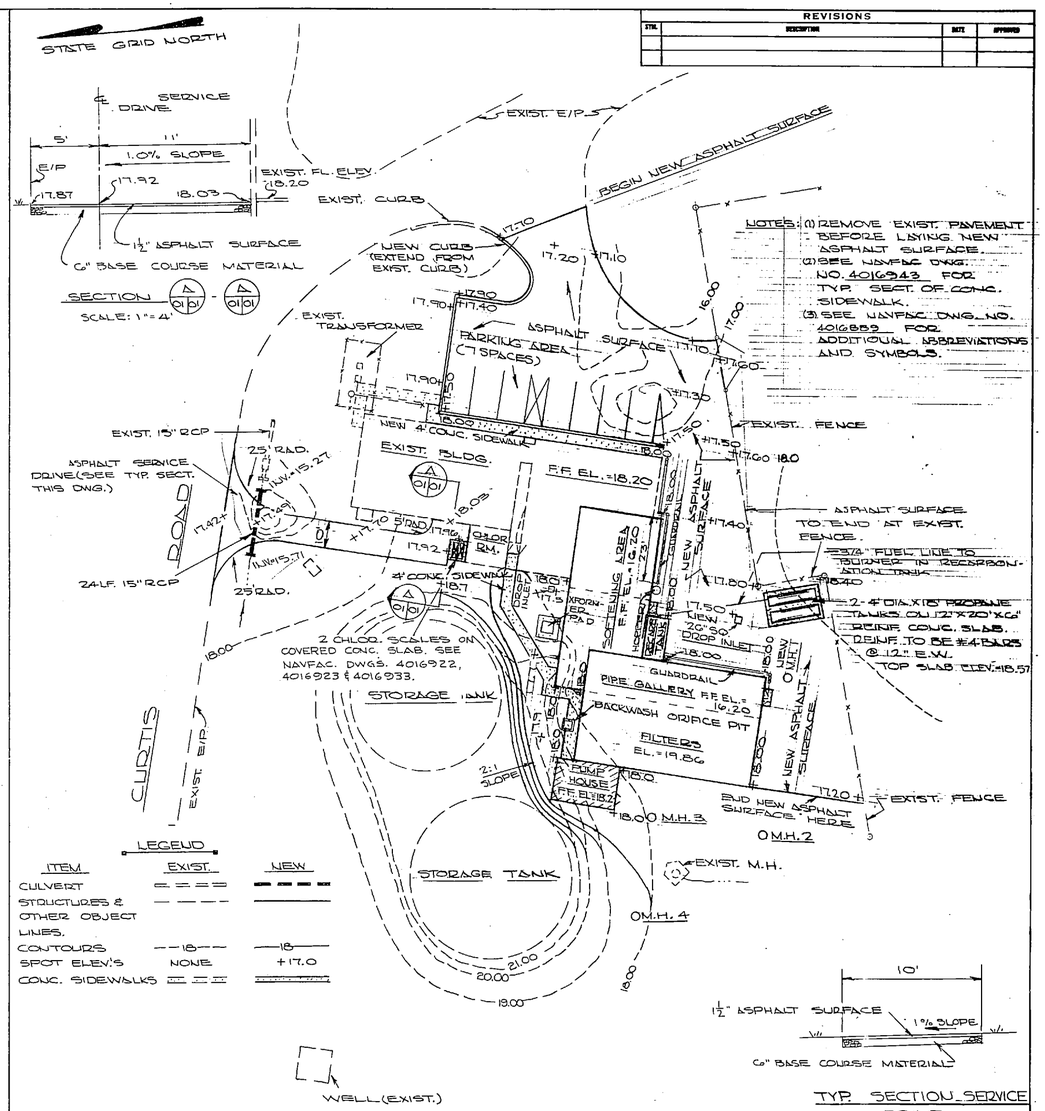
SCALE: 1" = 20'

LEGEND

ITEM	NEW	EXISTING	ABANDON	REMOVE
SANITARY SEWER	—SW—	----S----		
RAW WATER	—RW—	---RW---		—·—·—RW—·—·—
STORM DRAIN	—SD—	---SD---	—SD—	SD
FRESH WATER	—FW—	---FW---		
CHLORINE LINE		----C----		

NOTES: (1.) FOR CONTINUATION OF NEW 24" BACKWASH LINE SEE NAVFAC DWG. NO. 4016899.
(2.) FOR CONTINUATION OF NEW 12" RAW WATER LINE SEE NAVFAC DWG. NO. 4016897.
(3.) ■ INDICATES POINT OF CONNECTION TO EXIST. UTILITIES.
(4.) FOR ADDITIONAL ABBREVIATIONS AND SYMBOLS SEE NAVFAC DWG. NO. 4016889.
(5.) FOR NEW ADDITIONS TO EXIST. WATER TREATMENT PLANT SEE NAVFAC DWG. NO'S 4016902, 4016903 & 4016904.

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTES: (1) REMOVE EXIST. PAVEMENT BEFORE LAYING NEW ASPHALT SURFACE.
(2) SEE NAVFAC DWG. NO. 4016943 FOR TYP. SECT. OF CONC. SIDEWALK.
(3) SEE NAVFAC DWG. NO. 4016889 FOR ADDITIONAL ABBREVIATIONS AND SYMBOLS.

LEGEND

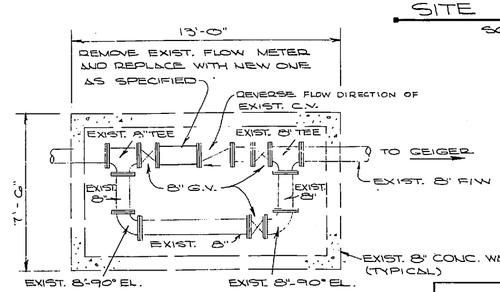
ITEM	EXIST.	NEW
CULVERT	= = = =	▬ ▬ ▬ ▬
STRUCTURES & OTHER OBJECT LINES.	— — — —	▬▬▬▬
CONTOURS	--18--	18
SPOT ELEV'S	NONE	+17.0
CONC. SIDEWALKS	⊞ ⊞ ⊞	▬▬▬▬

TYP. SECTION SERVICE DRIVE

SCALE: 1" = 4'

SITE PLAN (GRADING)

SCALE: 1" = 20'



DETAIL - EXIST. WATER METER PIT

SCALE: 3/8" = 1'-0"

SEE NAVFAC DWG. 4016897

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

GRAPHIC SCALE

1" = 20': 25' 0' 25' 50' 75' 100'

3/8" = 1'-0": 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10' 11' 12' 13' 14'

1" = 4': 4' 2' 0' 4' 8' 12' 16' 20'

NORTH CAROLINA PROFESSIONAL SEAL X 4277 X ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.W.H.
SUBMITTED BY: M. L. Elder DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR. J. Smith
APPROVED DATE 11/4/74
OFFICER IN CHARGE
APPROVED DATE 11 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE NORTH CAROLINA
UTILITY EXPANSION

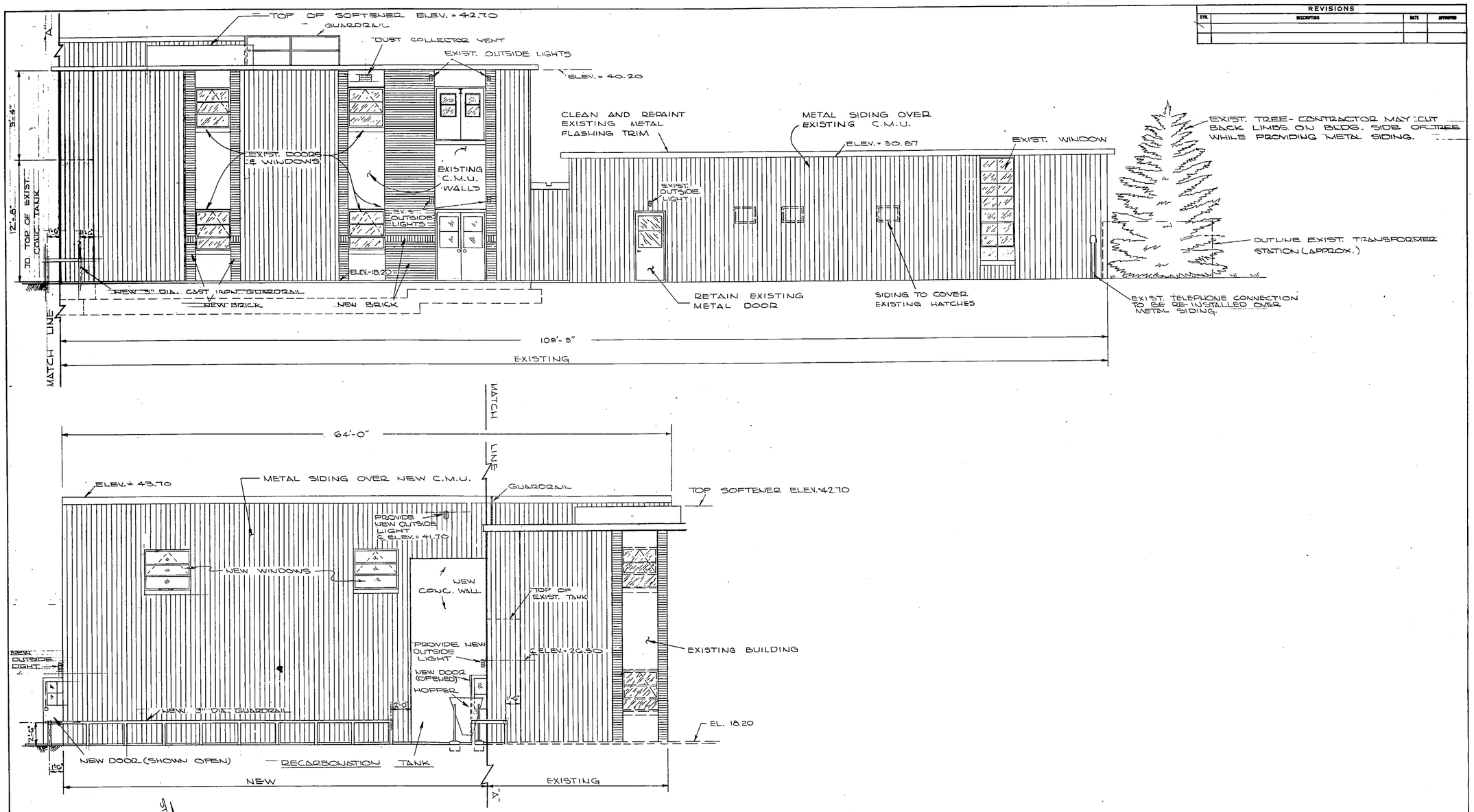
NEW RIVER WATER PLANT
SITE PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016901
		CONSTR. CONTR. NO.

SCALE AS SHOWN SPEC. 05-73 153 SHEET 15 OF 83

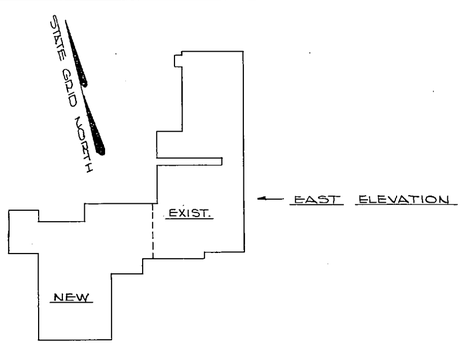
E.F.D. NO. 116901

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



EAST ELEVATION

SCALE: 1/4" = 1'-0"



GRAPHIC SCALE

1/4" = 1'-0" 5' 0' 5' 10' 15'

NOTES: (1) SEE NAVFAC DWG. NO. 4016802 FOR ABBREVIATIONS AND LEGEND.
(2) EXIST. LIGHTS TO BE REMOVED WHILE APPLYING NEW BRICK OR METAL SIDING, THEN PLACE BACK OVER BRICK OR METAL SIDING AT ORIGINAL LOCATION.
(3) GUARDRAIL POSTS TO BE SPACED @ 4'-0" MIN. & 5'-0" MAX.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: DATE 9/12/74
FIRM MEMBER PRINCIPAL
CFD RVD
HD MCT DIR
APPROVED DATE 7/24/74
OFFICER-IN-CHARGE
APPROVED DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.

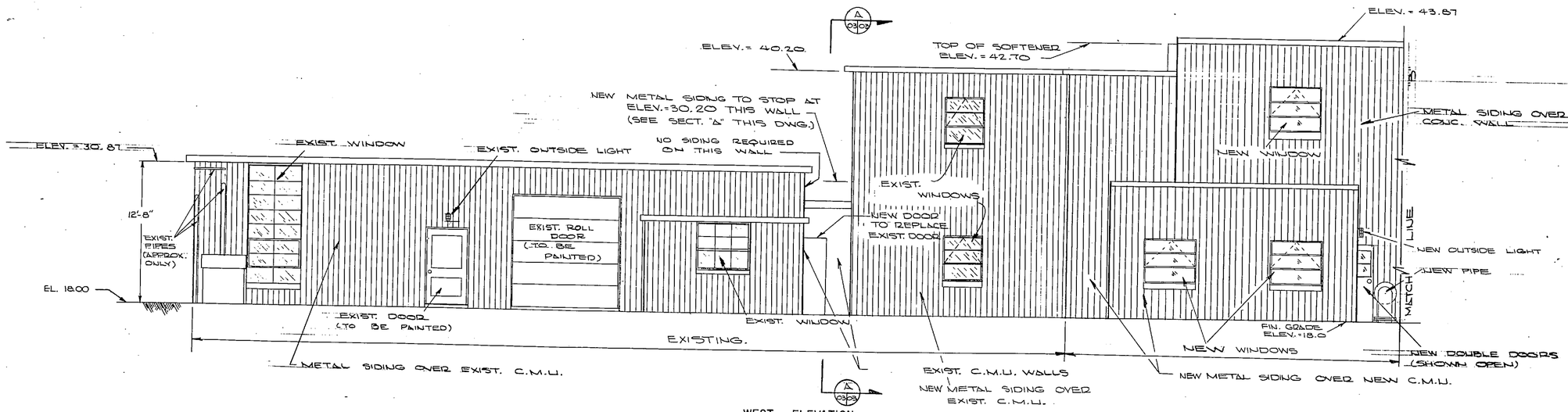
NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

WATER TREATMENT PLANT
ELEVATIONS

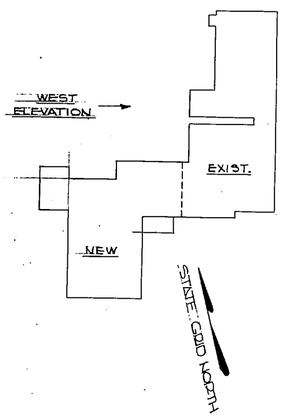
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016902
	CONSTR. CONTR. NO.	NO. FC 73 B-155
SCALE AS SHOWN	SPEC.	05-73-155
	SHEET	16 of 83

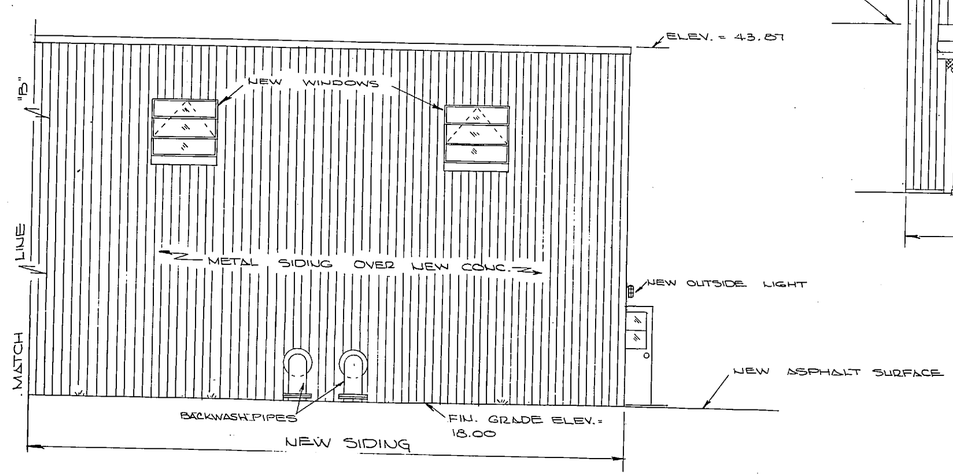
E.F.D. NO. 116902

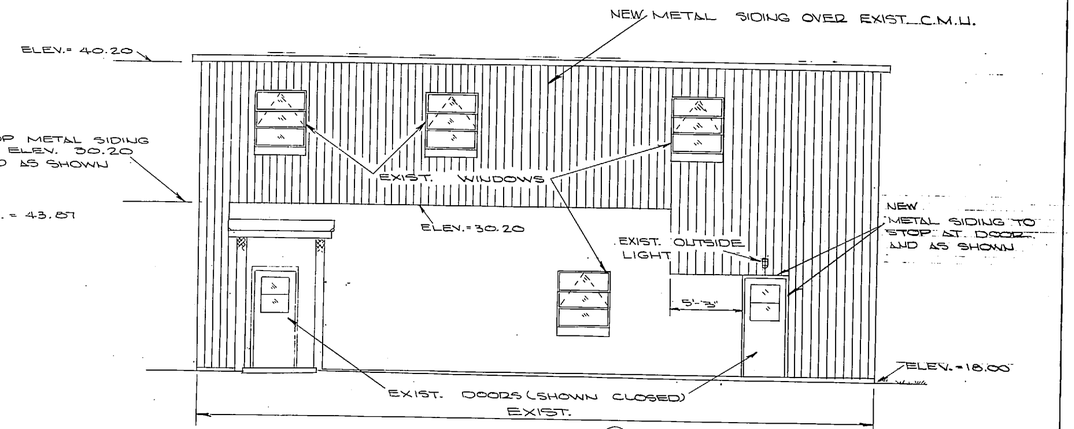
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



WEST ELEVATION
SCALE: 1/4" = 1'-0"







SECTION
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE
5' 0' 5' 10' 15'
1/4" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L. / D. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: M. L. Elwell DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD. RCW
HD MCE DIR. J. Hall
APPROVED DATE 7/29/74
OFFICER IN CHARGE
APPROVED 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL SEAL X 4277 ENGINEER L. K. TIMMONS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

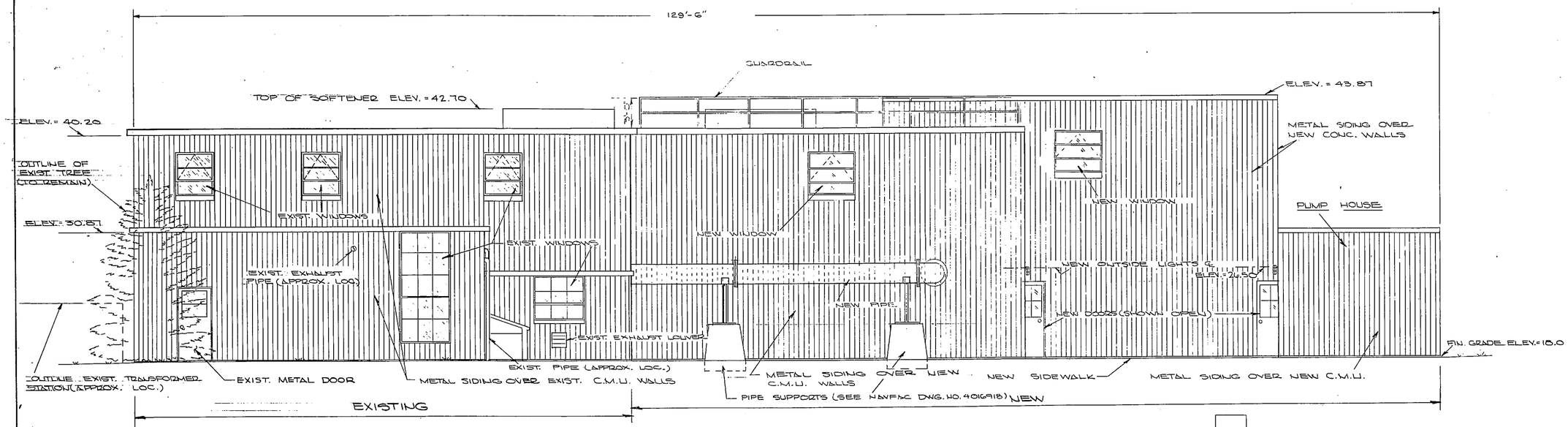
UTILITY EXPANSION

WATER TREATMENT PLANT
ELEVATIONS

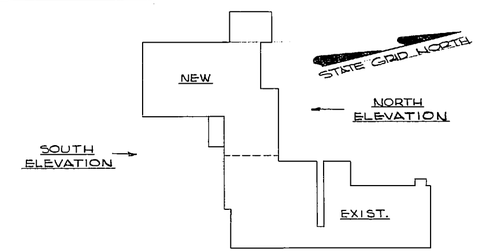
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016903
	CONSTR. CONTR. NO.	N62470-73-B-1155
SCALE AS SHOWN	SPEC. 05-73-1155	SHEET 17 OF 83

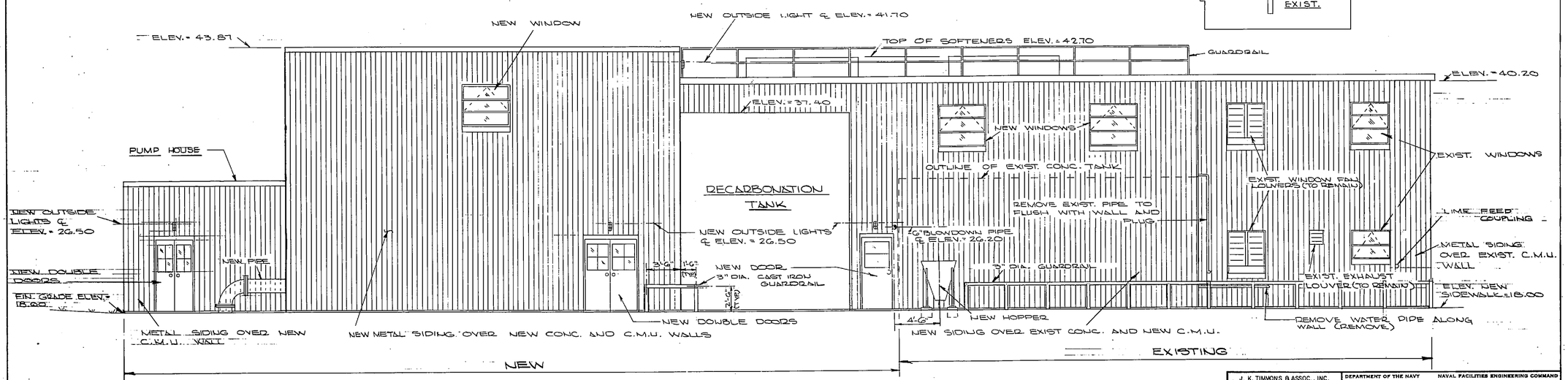
E.F.D. NO. 116903

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NORTH ELEVATION
SCALE: 1/4" = 1'-0"





SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE
5' 0' 5' 10' 15'
1/4" = 1'-0"

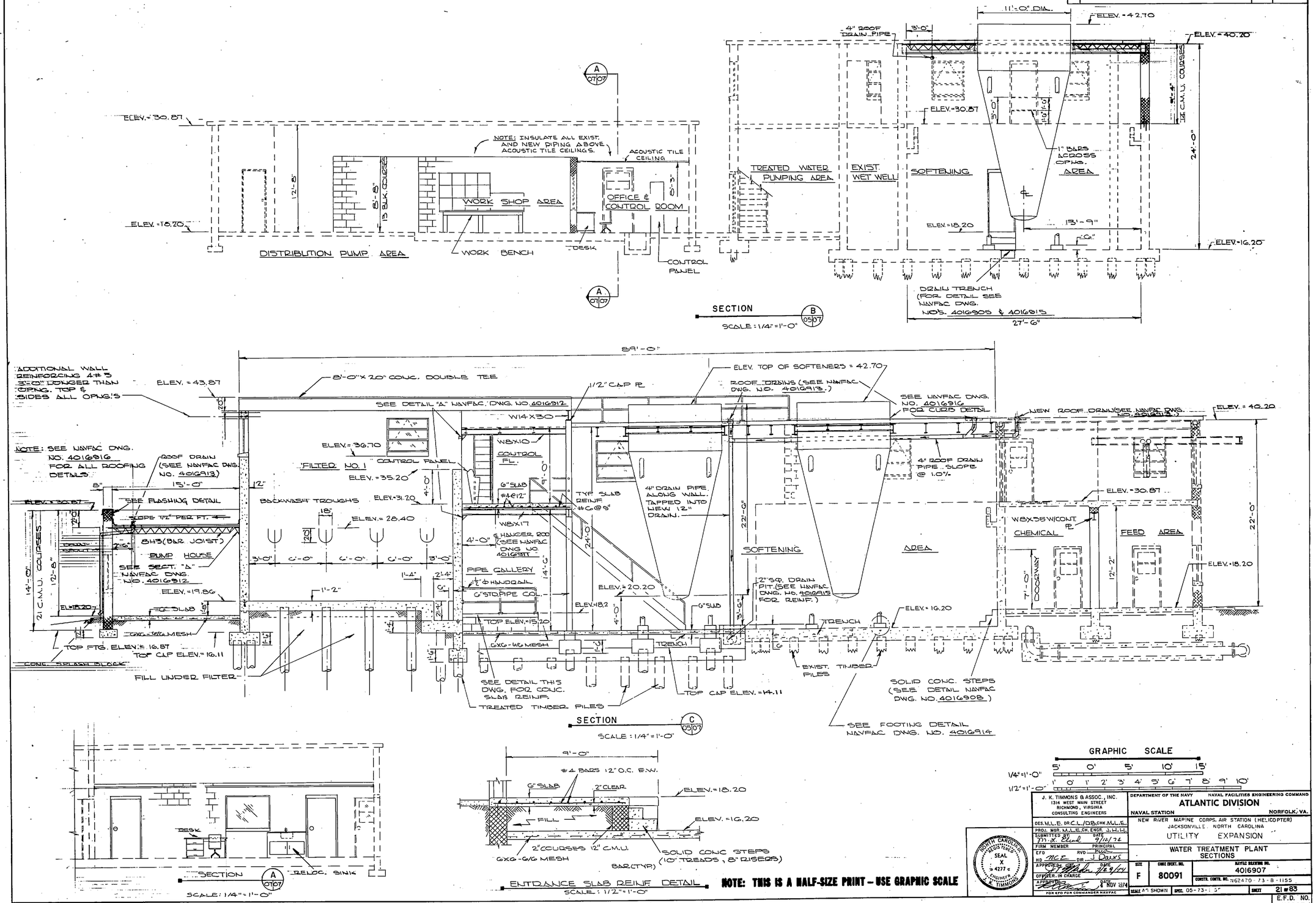
NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — ATLANTIC DIVISION — NAVAL STATION NORFOLK, VA.
DES. M.L.B. DR. C.L./D.B. CHK. M.L.B. PROJ. MGR. M.L.B. E.CH. ENGR. J.U.H. SUBMITTED BY: M. L. Bland DATE 7/12/74 FIRM MEMBER PRINCIPAL EFD FOR RVD HD ACE DIR J. Davis APPROVED: J. K. Timmons DATE 22 Nov 74 OFFICER IN CHARGE REMOVED: DATE 4 NOV 1974 FOR EFD FOR COMMANDER NAVFAC	NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA UTILITY EXPANSION WATER TREATMENT PLANT ELEVATIONS
	SIZE F; CODE IDENT. NO. 80091; NAVFAC DRAWING NO. 4016904; CONSTR. CONTR. NO. N62470-74-B-1155; SCALE AS SHOWN; SPEC. 05-73-11; SHEET 18 OF 83; E.F.D. NO. 116904

NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ABBREV. AND LEGEND.

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



GRAPHIC SCALE

1/4" = 1'-0" 5' 0' 5' 10' 15'

1/2" = 1'-0" 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED ENGINEER SEAL X 4277 E K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./DB. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.L.
SUBMITTED BY J. K. Timmons DATE 9/10/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD MCE DIR J. Davis
APPROVED DATE 11/8/74
OFFICER-IN CHARGE
APPROVED DATE 14 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

UTILITY EXPANSION

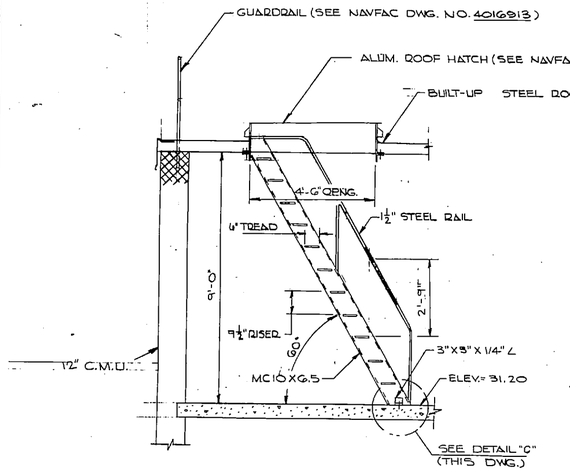
WATER TREATMENT PLANT SECTIONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016907
SCALE AS SHOWN	SPEC. 05-73-1.5	SHEET 21 of 83

CONTR. CONTR. NO. N62470-73-B-1155

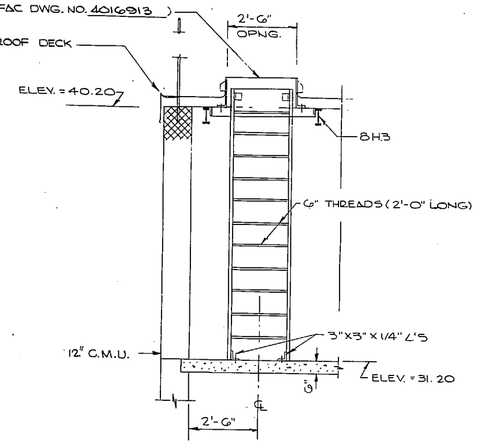
E.F.D. NO. 116907

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



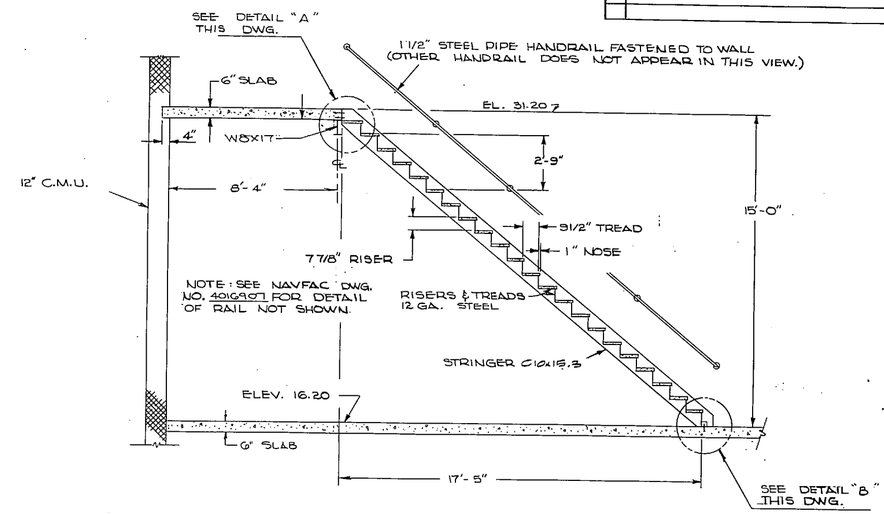
ELEVATION DETAIL - 60° STEEL LADDER

SCALE: 1/2" = 1'-0"



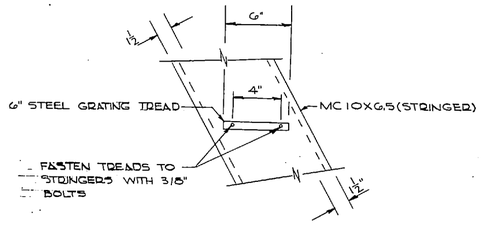
ELEVATION VIEW

SCALE: 1/2" = 1'-0"



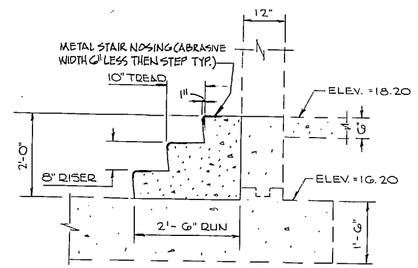
ELEVATION DETAIL – CONCRETE FILLED STEEL STAIRS

SCALE: 3/8" = 1'-0"

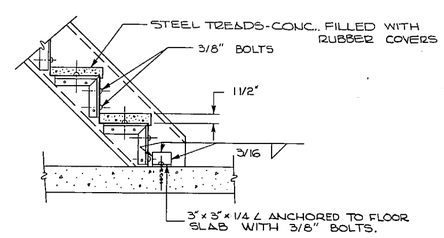


TYPICAL TREAD DETAIL

NO SCALE

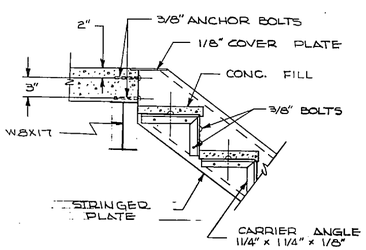


SOFTENING AREA



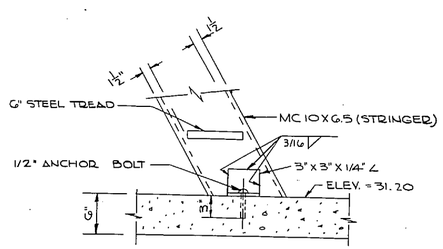
DETAIL "B"

NO SCALE



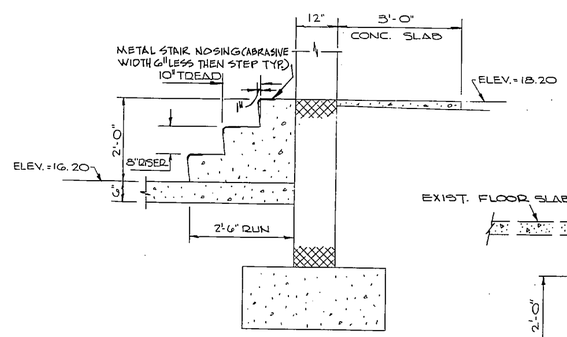
DETAIL "A"

NO SCALE



DETAIL "C"

NO SCALE

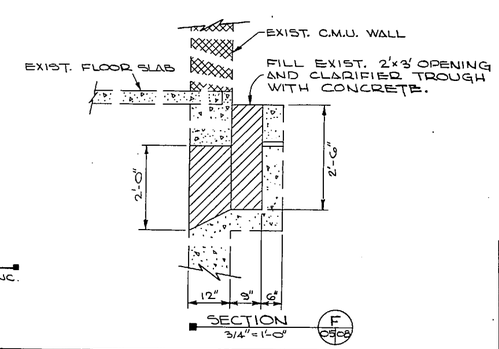


PIPE GALLERY

SOLID CONCRETE STEPS

(TYP. FOR ALL SOLID CONC. STEPS).

SCALE: 3/4" = 1'-0"



SECTION F 2508

3/4" = 1'-0"

GRAPHIC SCALE

1/2" = 1'-0" 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

3/4" = 1'-0" 1' 6' 0' 1' 2' 3' 4' 5' 6' 7'

3/8" = 1'-0" 1' 0' 2' 4' 6' 8' 10' 12' 14'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

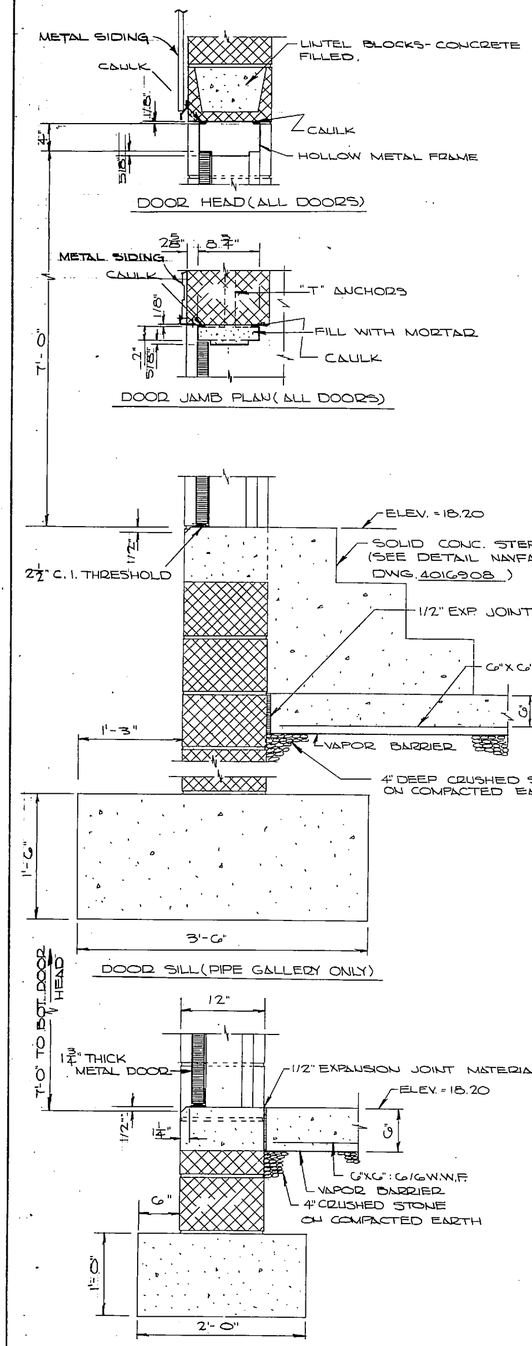
NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ABBREV. AND LEGEND.

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VA.
DES. M.L. B.D.R. C.L. / D.B. CHK. M.L.E.	NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA
PROJ. MGR. M.L. ECH. ENGR. J.H.H.	UTILITY EXPANSION
SUBMITTED BY M. L. Eure DATE 9/12/74 FIRM MEMBER PRINCIPAL	WATER TREATMENT PLANT DETAILS
EFD HD RVD DIR J. Davis	
APPROVED DATE 9/12/74 OFFICER IN CHARGE	SIZE F · CODE IDENT. NO. 80091 · NAVFAC DRAWING NO. 4016908
APPROVED DATE 14 NOV 1974 FOR EFD FOR COMMANDER NAVFAC	CONTR. CONTR. NO. N62470-73-B-1155
SCALE AS SHOWN · SPEC. 05-73-1155	SHEET 22 of 83

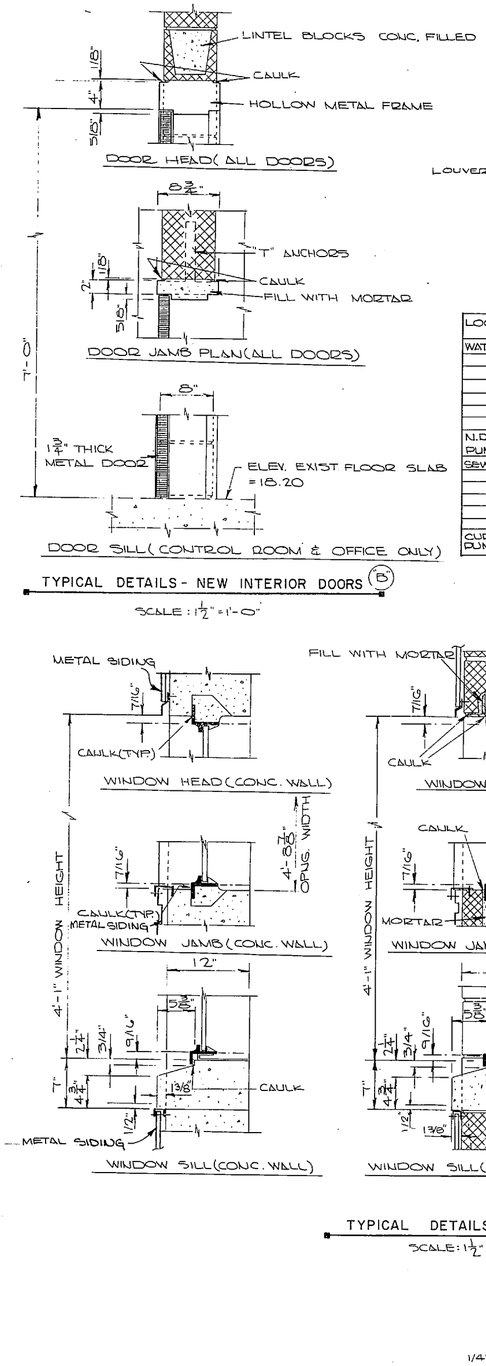
E.F.D. NO. 116908

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



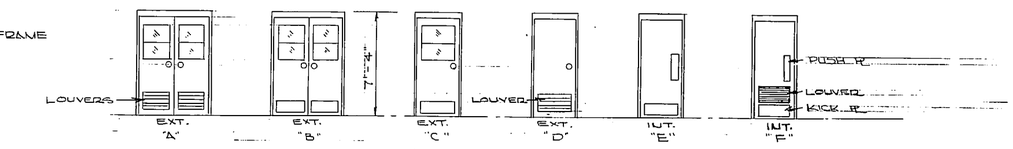
TYPICAL DETAILS - NEW EXTERIOR DOORS (A)

SCALE: 1½" = 1'-0"



TYPICAL DETAILS - NEW INTERIOR DOORS (B)

SCALE: 1½" = 1'-0"



DOOR TYPES

SCALE: 1/4" = 1'-0"

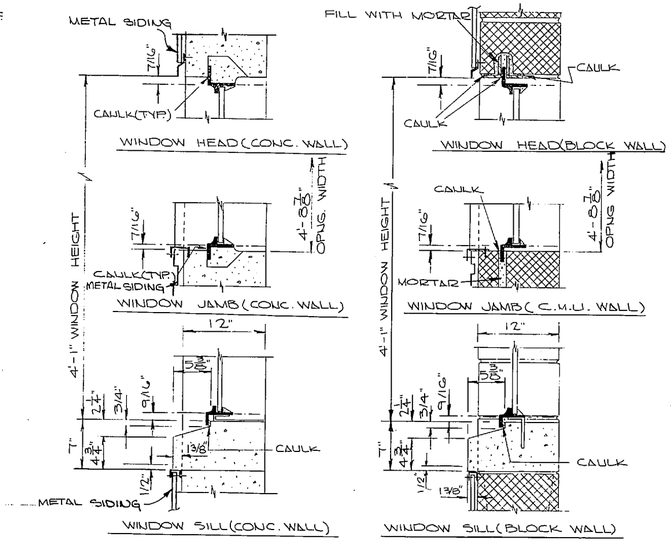
DOOR SCHEDULE

LOCATION	OPNG. NO.	ELEV.	FRAME DETAIL	HARDWARE TYPE	FLUSH BOLT	LOCK SET	CLOSER	PUSH PL.	KICK PL.
WATER PLANT	1	C	(A)	HW-10		86B			●
"	2	B	"	HW-7	●	"			●
"	3	B	"	"	●	"			●
"	4	C	"	HW-10		"			●
"	15	C	"	"		"			●
"	103	E	(B)	HW-113			●	●	●
"	102	F	"	HW-100			●	●	●
N.D. SEWAGE PUMPING STA.	6	B	(A)	HW-7	●	86B			●
	7	D	"	HW-10		"			
SEWAGE PLANT	8	C	"	"		"			●
"	9	A	"	HW-7	●	"			
"	10	B	"	"	●	"			●
"	11	C	"	HW-10		"			●
"	12	C	"	"		"			●
"	13	D	"	"		"			●
"	14	C	"	"		"			●
CURTIS RD. PUMP STA.									

NOTE: PROVIDE GAS-TIGHT DOOR AND PANIC EXIT DEVICE ON DOOR'S IN WATER PLANT CHLORINE ROOM. (SEE NAVFAC. DWG. 4016905.)

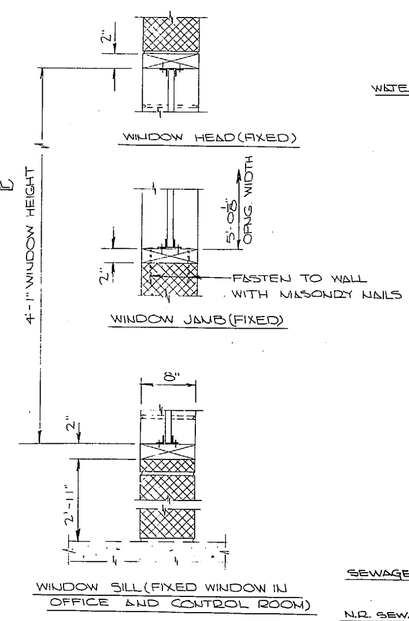
FINISH SCHEDULE

	SPACES NO	TITLE	FLOOR: CONC.	FLOOR: RESIL. TILE	BASE: CONC.	BASE: VINYL	BASE: NONE	WALLS: C.M.U.	WALLS: CONC.	WALLS: PAINTED	WALLS: EXIST.	WALLS: NEW	WALLS: EXP. CONST.	CEIL.: ACOUS. TILE	CEIL.: PAINTED
WATER TREAT. PLANT	1	WORKSHOP AREA						●		●	●				●
	2	LOCKER RM.		●		●		●		●	●			●	
	3	DIST. PUMP AREA						●		●	●				●
	4	OFF. & CONT. RM.		●		●		●		●	●		●	●	
	5	TREAT. WATER PUMP AREA								●	●				●
	6	CHLORINE RM.								●	●				●
	7	LUNCH RM.								●	●				●
	8	CHEM. MIXING RM'S								●	●				●
	9	SOFTENING AREA	●					●	●		●	●			●
	10	FILTER AREA (NETZ.)	●		●		●	●	●	●	●		●		●
	11	FILT. AREA (PIPE GAL.)	●					●	●	●			●		●
	12	PUMP HOUSE	●					●		●			●		●
	13	CHEM. STORAGE I						●		●	●				●
	14	" " II						●		●	●				●
SEWAGE TREAT. & PUMPING STA.	15	CONTROL & GEN ROOM	●					●		●			●	●	
	16	WET & DRY WELLS	●						●				●	●	
	17	CONTROL & PUMP ROOM	●					●		●			●		●
	18	GEN. & POLY. BLDG.	●					●		●	●		●		●



TYPICAL DETAILS - NEW WINDOWS

SCALE: 1½" = 1'-0"



COLOR SCHEDULE

(FROM FEDERAL STANDARD 595)

WATER PLANT:		
EXTERIOR - 1. METAL SIDING AND TRIM	GREEN	24227
2. DOORS, WINDOWS		24373
3. SOFTENERS	GREEN	24227
4. PIPE RAILING		24227
INTERIOR - 1. PIPING (AS SPECIFIED IN MIL-STD-101B)		
2. SOFTENING AND FILTER AREA WALLS	BLUE	25526
3. CEILINGS AND EXPOSED STRUCTURAL STEEL	BLUE	25622
4. SOFTENERS	BLUE	25414
5. PIPE RAILING AND METAL STEPS	BLUE	25414
6. CHEMICAL FEED AREA (1ST. FL.)	WHITE	27875
7. BACKWASH PUMP-HOUSE WALLS AND EXPOSED STRUCTURAL STEEL	GREEN	24272
8. LIME STORAGE BIN	GREEN	24272
9. LIME STORAGE AREA "A"	WHITE	27875
10. CONTROL RM. & LOCKER RM. WALLS	4' WAINSCOT	24272/24504 (GREEN) (LT. GR.)
11. WOOD TRIM & LIME STORAGE BINS.	GREEN	24272
12. WALLS IN PUMPING & WORKSHOP AREA	GREEN	24272
13. CHLORINE RM. WALLS & CEILING	WHITE	27875
14. LUNCH ROOM	4' WAINSCOT	24272/24504 (GREEN) (LT. GR.)
SEWAGE PLANT:		
INTERIOR 15. CONTROL & PUMP ROOM	GREEN	24504
16. GENERATOR & POLY. BLDG.	GREEN	24504
N.D. SEWAGE PUMPING STATION:		
INTERIOR 17. CONTROL ROOM	GREEN	24504

GRAPHIC SCALE

1/4" = 1'-0": 5' 0' 5' 10' 15'

1½" = 1'-0": 1' 9" 6" 3" 0' 1' 2' 3'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ABBREV. & LEGEND.

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. MLB DR. CLW/DB CHK. MLB
PROJ. MGR. MLB CH. ENGR. JJH
SUBMITTED BY: M. L. Blank DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR
APPROVED DATE 7/28/74
OFFICER IN CHARGE
APPROVED DATE 1 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

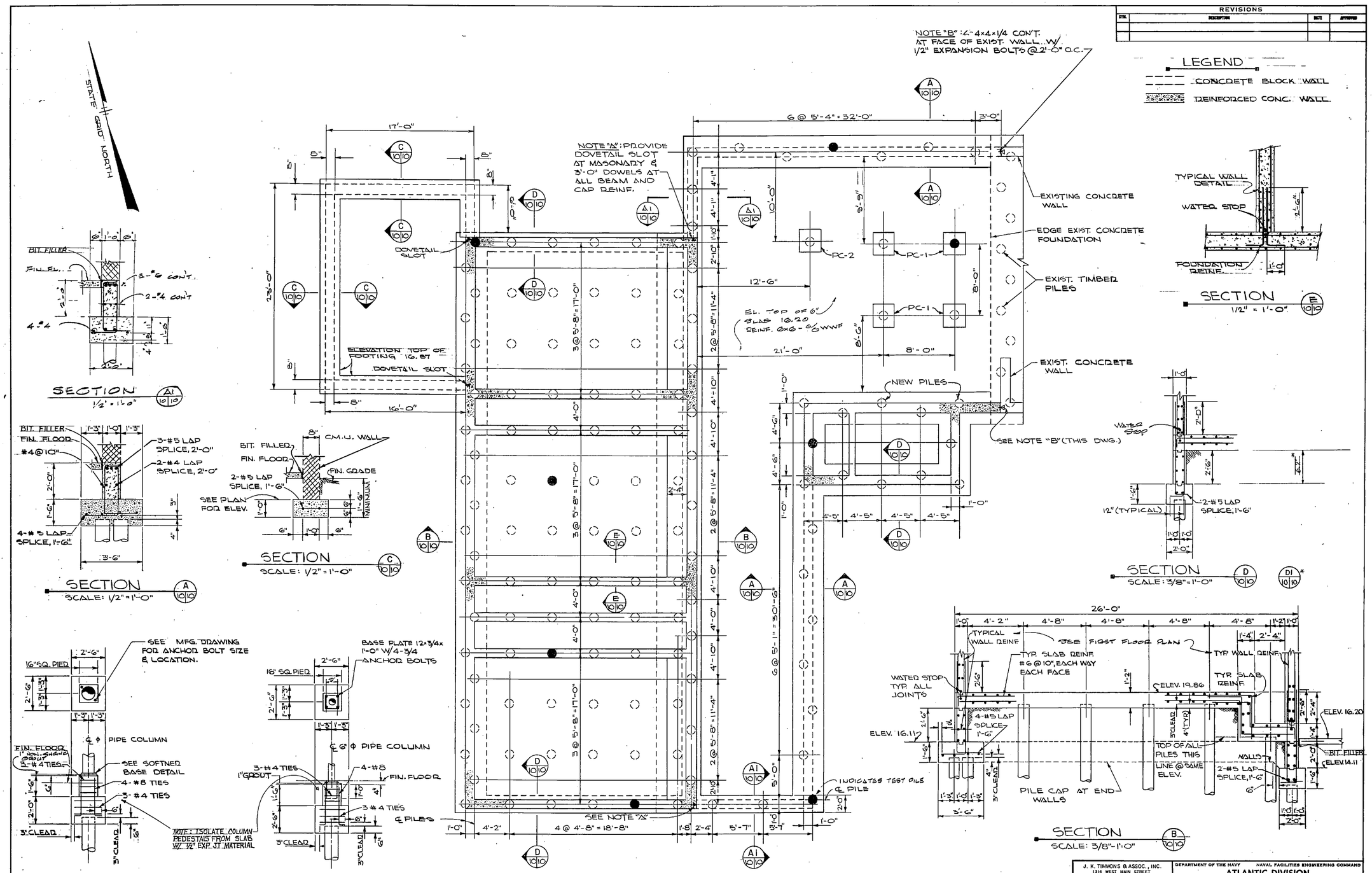
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.
SEA RIVER MARINE CORPS AIR STATION (HELICOPTER)
NEW BERN NORTH CAROLINA
UTILITY EXPANSION
WATER TREATMENT PLANT DOORS & WINDOWS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016909
		CONTR. CONTR. NO. N62470-74-B-1155

SCALE AS SHOWN SPEC. DATE 23 of 83

E.F.D. NO. 116909

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. J.W.J. DR. C.L./D.B. CHK. J.W.J.
PROJ. MGR. M.L.B. CH. ENGR. J.H.H.
SUBMITTED BY: M. L. Bond DATE 9/18/74
FIRM MEMBER PRINCIPAL
EFD. RVD
HD CON DIR
APPROVED DATE 12/9/74
OFFICER-IN CHARGE
APPROVED DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE — NORTH CAROLINA

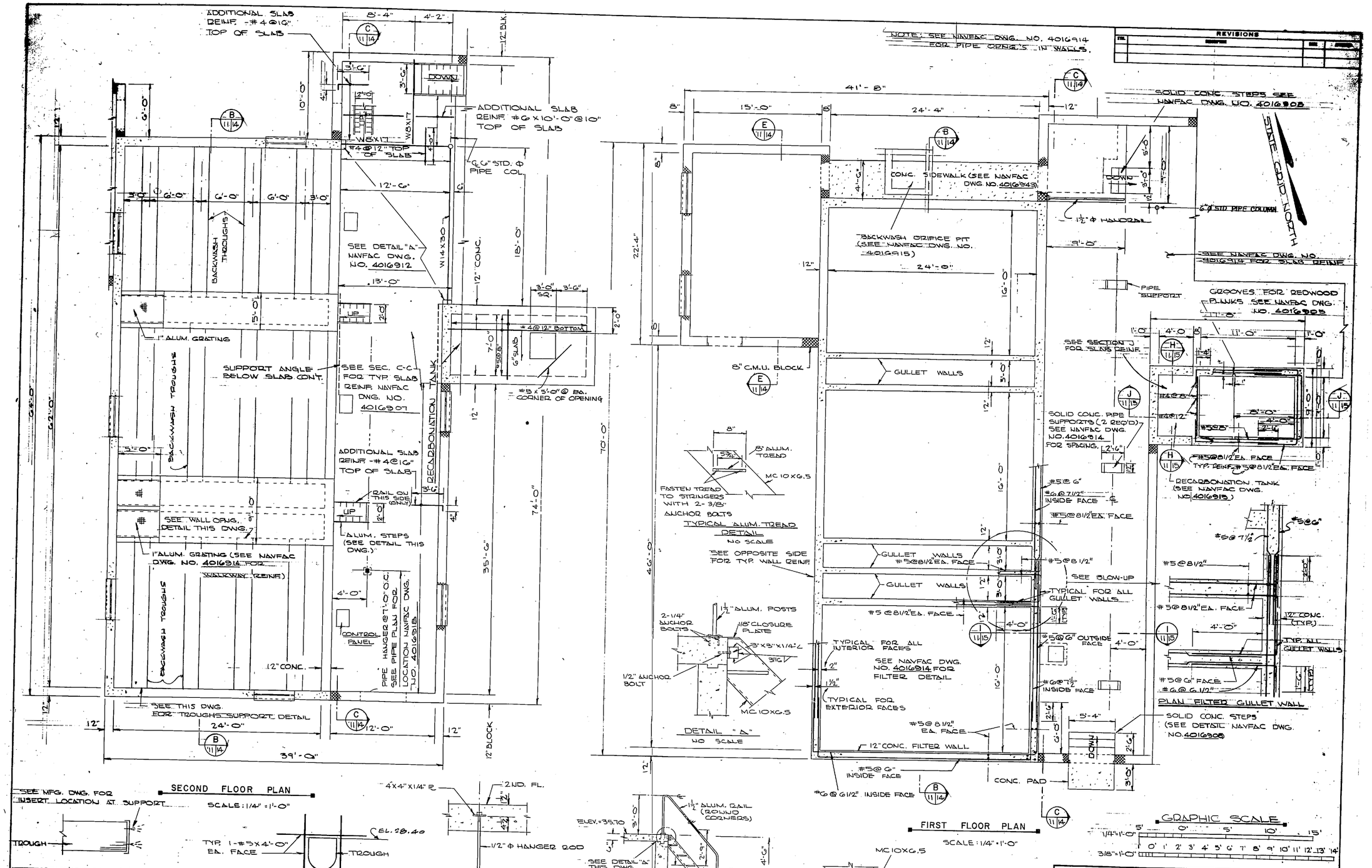
UTILITY EXPANSION

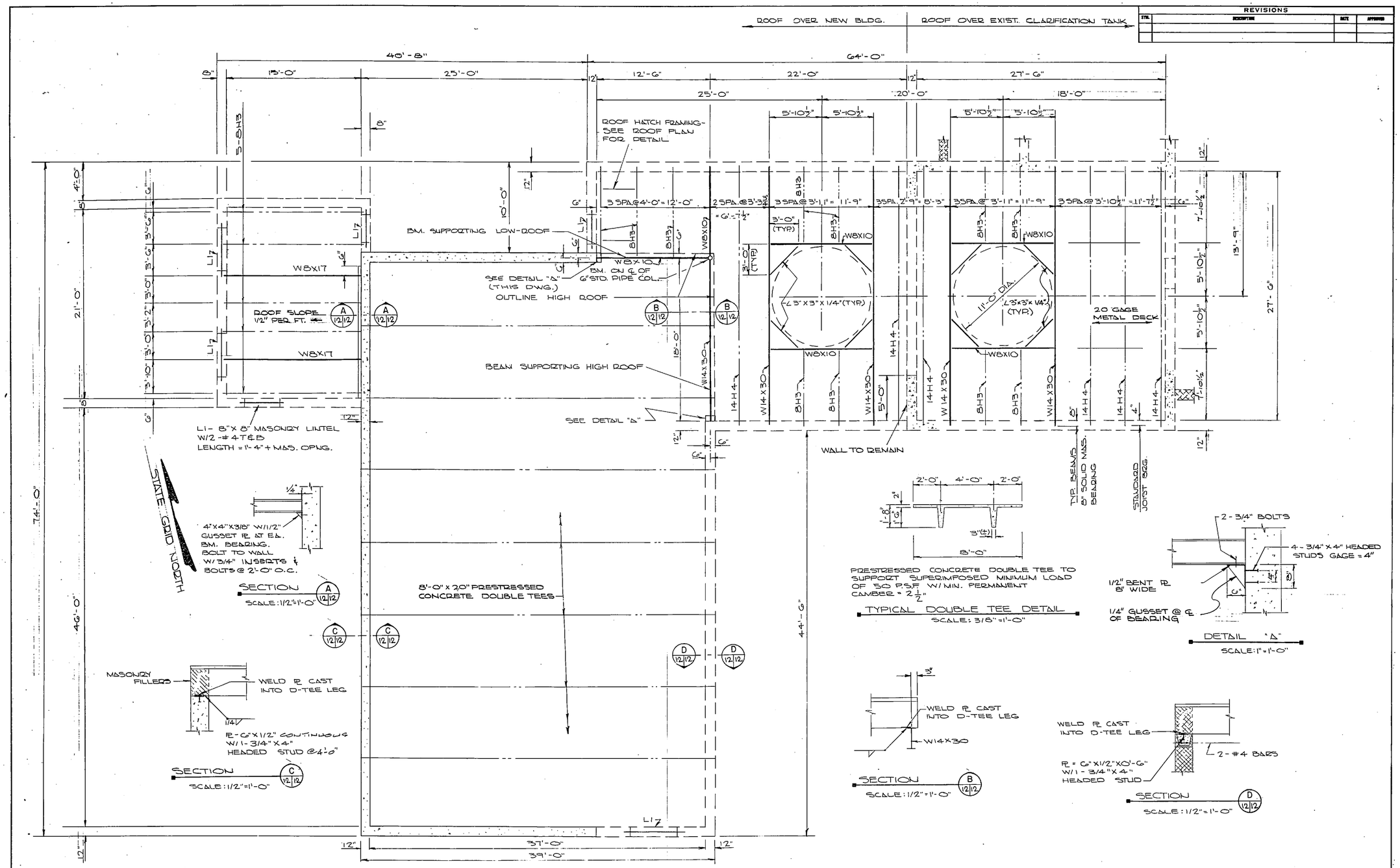
WATER TREATMENT PLANT
FOUNDATION PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016910
	CONTR. CONTR. NO.	62270-73-B-1155

SCALE AS SHOWN | SPEC. 05-73-1155 | SHEET 24 of 83

E.F.D. NO. 116910


ADDITIONAL SLAB REINF. -#4@12" TOP OF SLAB
ADDITIONAL SLAB REINF. #6 X 10'-0" @ 10" TOP OF SLAB
#4@12" TOP OF SLAB
6" ϕ STD. ϕ PIPE COL.
SEE DETAIL "A" NAVFAC DWG. NO. 4016912
W14X30
12" CONC.
BACKWASH THOUGHS
1" ALUM. GRATING
SUPPORT ANGLE BELOW SLAB CON'T.
SEE SEC. C-C FOR TYP. SLAB REINF. NAVFAC DWG. NO. 4016907
#4@12" BOTTOM
#5 X 5'-0" @ EA. CORNER OF OPENING
DECARBONATION TANK
ADDITIONAL SLAB REINF. -#4@12" TOP OF SLAB
RAIL ON THIS SIDE (ONLY)
ALUM. STEPS (SEE DETAIL THIS DWG.)
SEE WALL OPNG. DETAIL THIS DWG.
1" ALUM. GRATING (SEE NAVFAC DWG. NO. 4016914 FOR WALKWAY REINF.)
CONTROL PANEL
PIPE HANGER @ 7'-0" O.C. SEE PIPE PLAN FOR LOCATION NAVFAC DWG. NO. 4016918
12" CONC.
SEE THIS DWG. FOR TROUGHS SUPPORT DETAIL
12" BLOCK
74'-0"
35'-6"
39'-0"
24'-0"
12'-0"
NOTE: SEE NAVFAC DWG. NO. 4016914 FOR PIPE OPNG.'S IN WALLS.
41'-8"
15'-0"
24'-4"
SOLID CONC. STEPS SEE NAVFAC DWG. NO. 4016908
STATE GRID NORTH
CONC. SIDEWALK (SEE NAVFAC DWG. NO. 4016943)
BACKWASH ORIFICE PIT (SEE NAVFAC DWG. NO. 4016915)
24'-0"
1½" ϕ HANDRAIL
6" ϕ STD PIPE COLUMN
SEE NAVFAC DWG. NO. 4016915 FOR SLAB REINF.
PIPE SUPPORT
GROOVES FOR REDWOOD PLANKS SEE NAVFAC DWG. NO. 4016905
SEE SECTION J FOR SLAB REINF.
8" C.M.U. BLOCK
GULLET WALLS
SOLID CONC. PIPE SUPPORTS (2 REQ'D) SEE NAVFAC DWG. NO. 4016914 FOR SPACING.
#5@81/2" EA. FACE
TYP. REINF. #5@81/2" EA. FACE
DECARBONATION TANK (SEE NAVFAC DWG. NO. 4016915)
8" ALUM. TREAD
MC 10X6.5
FASTEN TREAD TO STRINGERS WITH 2-3/8" ANCHOR BOLTS
TYPICAL ALUM. TREAD DETAIL
NO SCALE
SEE OPPOSITE SIDE FOR TYP. WALL REINF
#5@6"
#6@7½" INSIDE FACE
#5@8½"
SEE BLOW-UP
TYPICAL FOR ALL GULLET WALLS
#5@6" OUTSIDE FACE
#6@7½" INSIDE FACE
½" ALUM. POSTS
2-1/4" ANCHOR BOLTS
1/8" CLOSURE PLATE
3"X3"X1/4" L
3/16
1/2" ANCHOR BOLT
TYPICAL FOR ALL INTERIOR FACES
SEE NAVFAC DWG. NO. 4016914 FOR FILTER DETAIL
TYPICAL FOR EXTERIOR FACES
DETAIL "A"
NO SCALE
12" CONC. FILTER WALL
#5@6" INSIDE FACE
#6@6½" INSIDE FACE
CONC. PAD
PLAN FILTER GULLET WALL
SOLID CONC. STEPS (SEE DETAIL NAVFAC DWG. NO. 4016908)
TYP. ALL GULLET WALLS
SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"
FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"
SEE MFG. DWG. FOR INSERT LOCATION AT SUPPORT
TROUGH
TROUGHS SUPPORT DETAIL
NO SCALE
TYP. 1-#5 X 4'-0" EA. FACE
EL. 28.40
DETAIL - TROUGH OPNG. IN WALL
NO SCALE
4"X4"X1/4" ∠
2ND. FL.
1/2" ϕ HANGER ROD
PIPE HANGER ROD DETAIL
NO SCALE
ELEV. = 35.70
1½" ALUM. RAIL (ROUND CORNERS)
SEE DETAIL "A" THIS DWG.
8" TREAD (SEE DETAIL ABOVE)
ELEV. = 31.20
SEE DETAIL "B" THIS DWG.
3'-4" RUN
ALUM. STEPS DETAIL
SCALE: 3/8" = 1'-0"
MC10X6.5
1/2" ANCHOR BOLT
3"X3"X1/4" L
DETAIL "B"
NO SCALE
GRAPHIC SCALE
1/4" = 1'-0"
3/8" = 1'-0"
NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ABBREVIATIONS AND LEGEND.
NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE
REVISIONS
J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION
NORFOLK, VA.
NEW RIVER MARINE CORPS, AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION
NEW RIVER WATER PLANT
STRUCTURAL
DES. JWJ, DR. CL, D.B. CHK. JWJ
PROJ. MGR. M.L.B. CH. ENGR. J.H.H.
SUBMITTED BY: DATE 7/1/76
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR
APPROVED 7/22/74
OFFICER IN CHARGE
APPROVED DATE
FOR EFD FOR COMMANDER NAVFAC
NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS
SIZE F
CODE IDENT NO. 80091
NAVFAC DWG. NO. 4016911
CONTR. DWG. NO. N62470-73-B-1188
SCALE AS SHOWN
SPEC. 06-73-1155
SHEET 25 of 83
E.F.D. NO 116911



ROOF FRAMING PLAN (NEW BUILDING)

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

1/4" = 1'-0" 5' 0' 5' 10' 15'

3/8" = 1'-0" 1' 0' 2' 4' 6' 8' 10' 12' 14'

1/2" = 1'-0" 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

1" = 1'-0" 1' 6" 0' 1' 2' 3' 4'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. J.W.J. DR. C.L. / D.B. CHK. J.W.J.
PROJ. MGR. M.L.B. ELEC. ENGR. J.M.H.
SUBMITTED BY: M. E. Bond DATE 9/16/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR
APPROVED DATE 9/23/74
OFFICER-IN CHARGE
APPROVED DATE NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

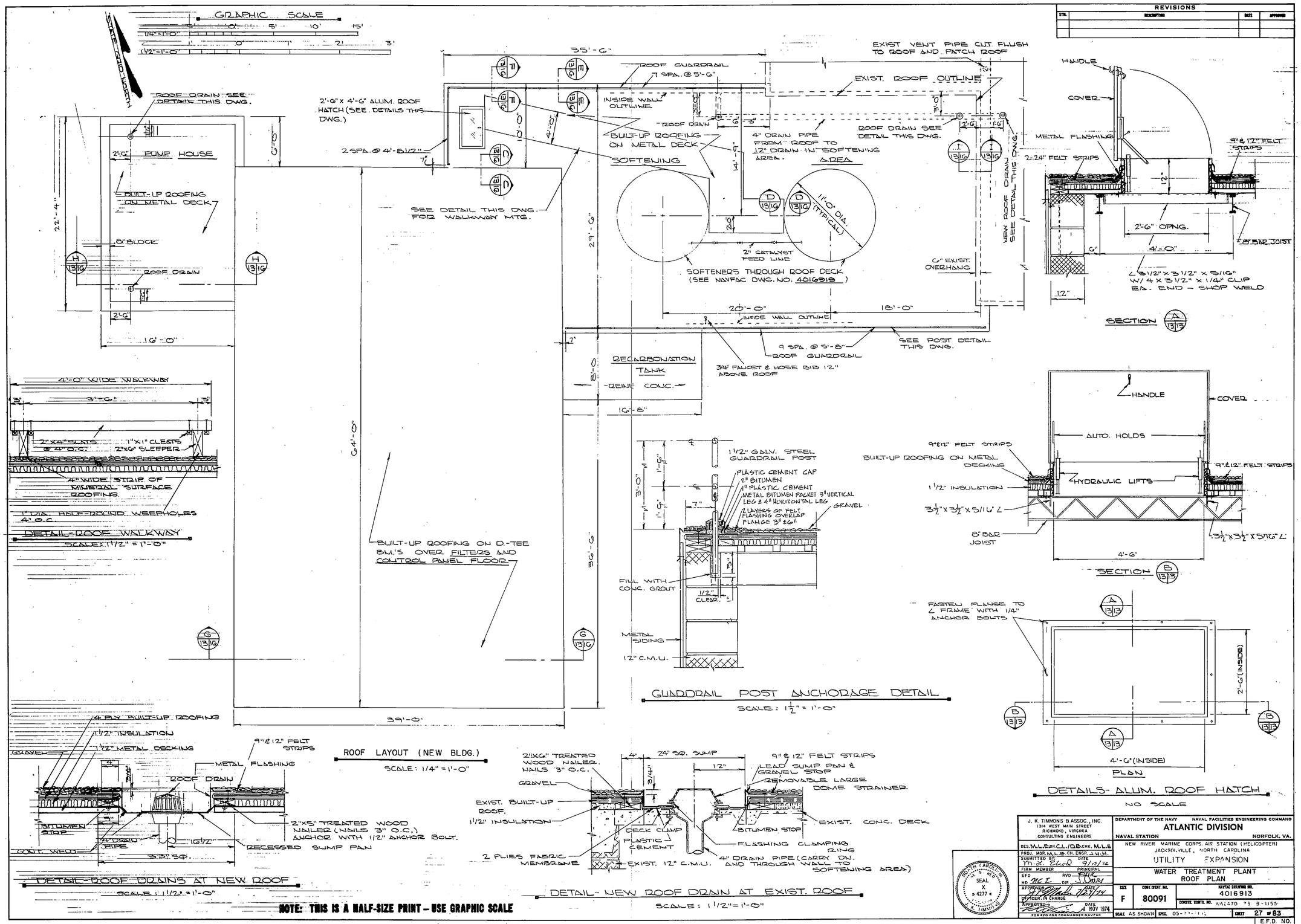
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

WATER TREATMENT PLANT
ROOF FRAMING PLAN

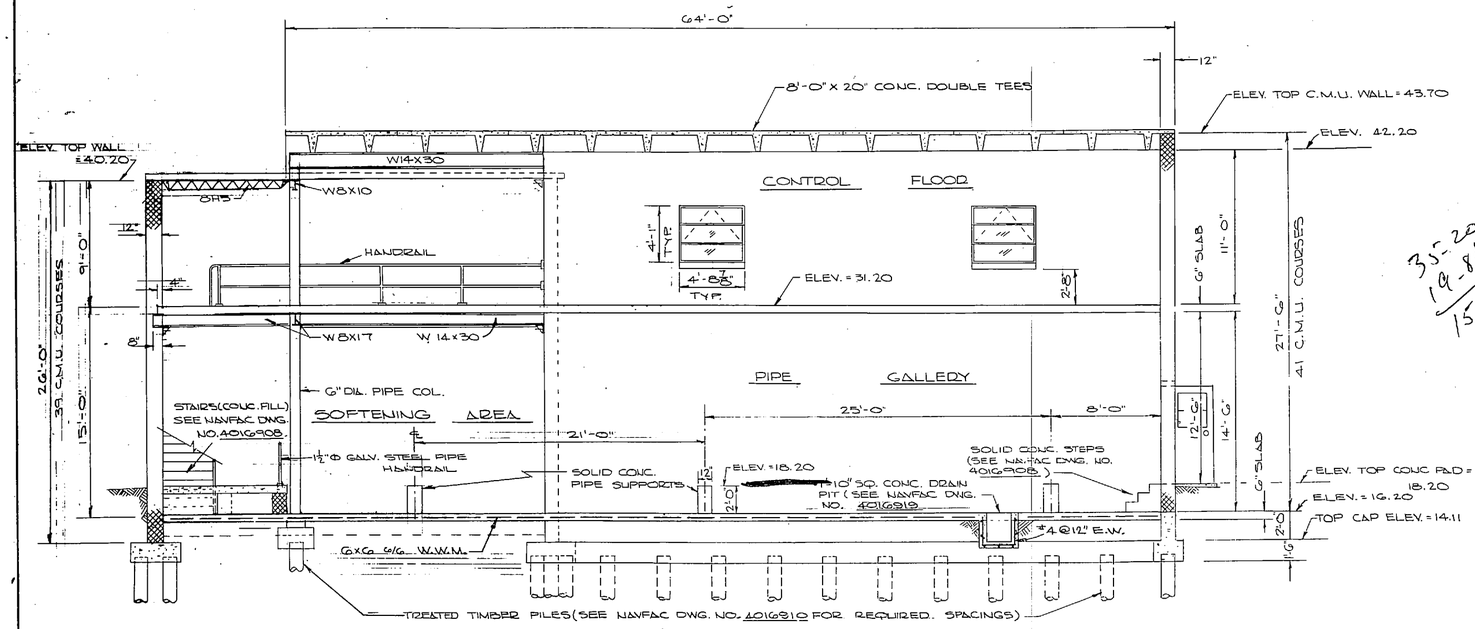
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016912

CONSTR. CONTR. NO. N62470-73-B-1155
SCALE AS SHOWN SPEC. 05-73-1 55 SHEET 26 of 83
E.F.D. NO. 116912

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

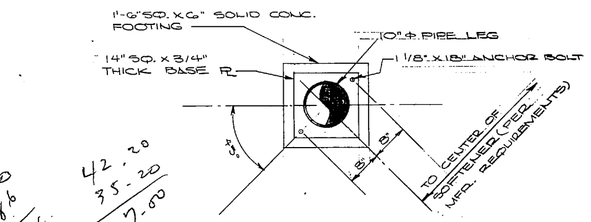


REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



SECTION C 11/14

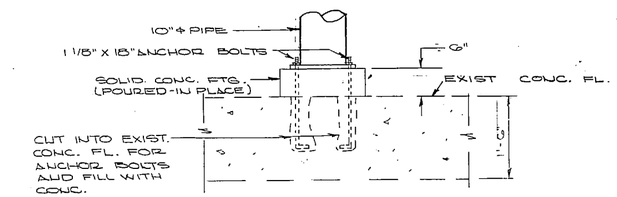
SCALE: 1/4" = 1'-0"



PLAN

35.20
19.86
15.34

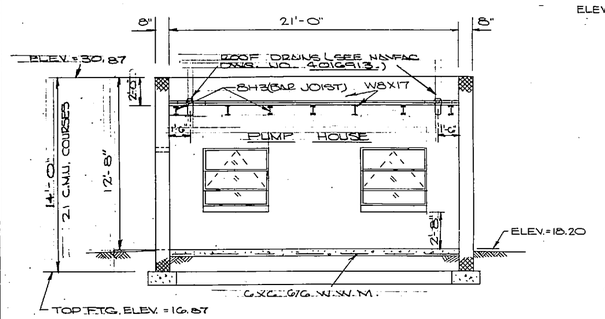
42.20
35.20
7.00



ELEVATION

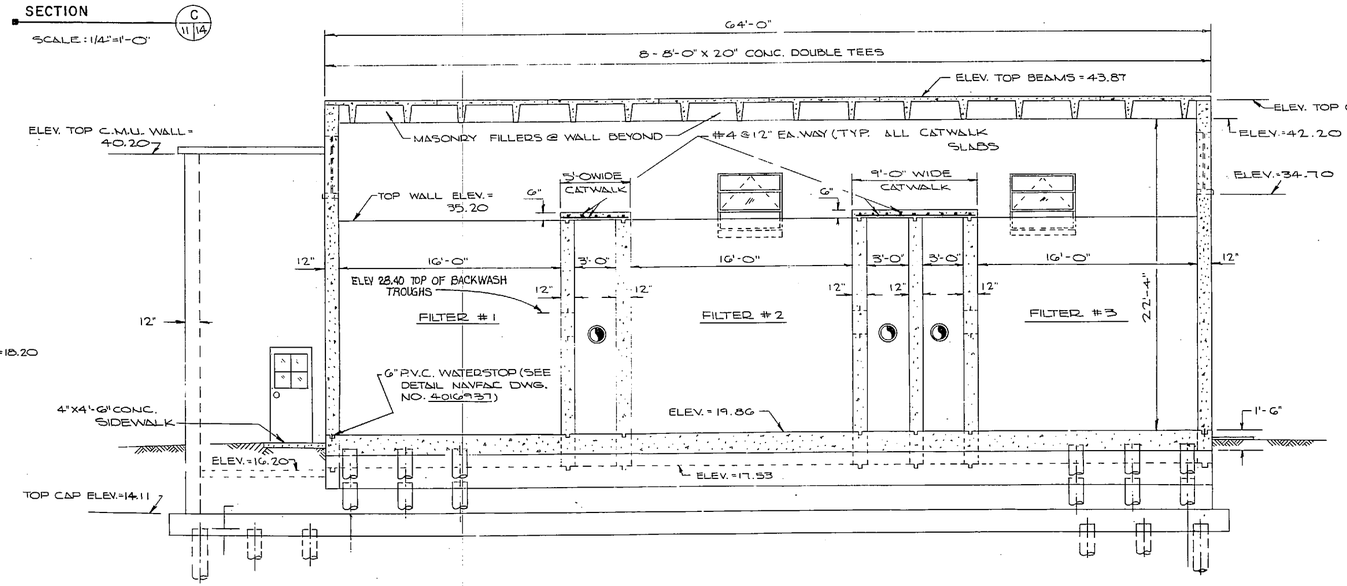
SOFTENER FOOTING DETAILS

SCALE: 1" = 1'-0"



SECTION E 11/14

SCALE: 1/4" = 1'-0"



SECTION B 11/14

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

1/4" = 1'-0" 5' 0' 5' 10' 15'

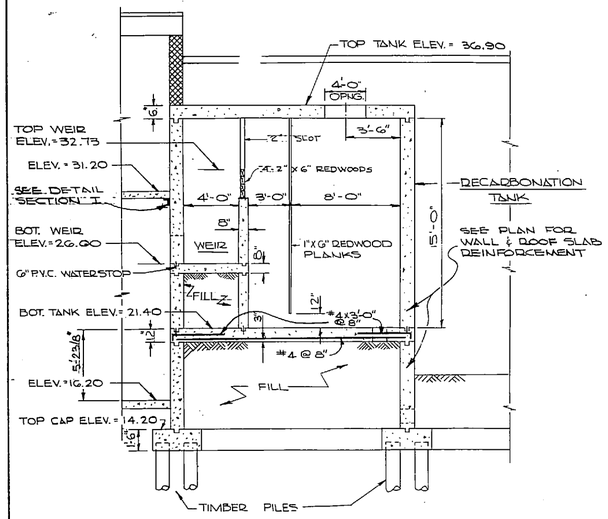
1" = 1'-0" 1' 6" 0' 1' 2' 3' 4' 5'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

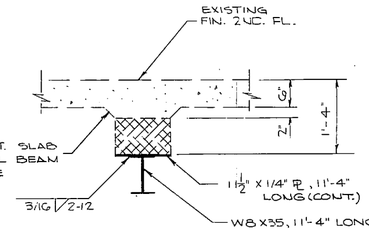
J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VA.
DES. M.E.L./R.C.L./C.D. CHK. M.L.E. PROJ. MGR. M.L.E. CH. ENGR. J.H.H.	NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA UTILITY EXPANSION
SUBMITTED BY: M. L. Elliott DATE 9/12/74 FIRM MEMBER PRINCIPAL	WATER TREATMENT PLANT STRUCTURAL SECTIONS
EFD HD FPM RVD DIR J. Davis	SIZE F; CONT. IDENT. NO. 80091; NAVFAC DRAWING NO. 4016914
APPROVED: 9/29/74	CONSTR. CONTR. NO. N62470-73-B-1155
OFFICER-IN-CHARGE DATE 4 NOV 1974 FOR EFD FOR COMMANDER NAVFAC	SCALE AS SHOWN SPEC. 05-73-1155 SHEET 28 of 83
	E.F.D. NO. 116914

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



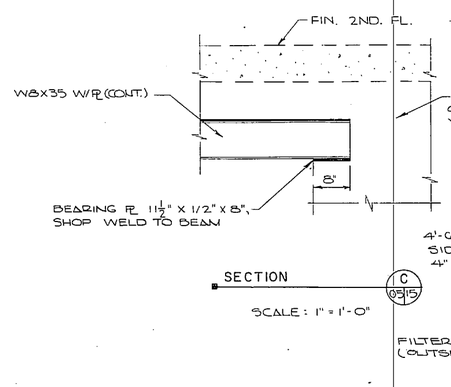
SECTION J / 11/15

SCALE: 1/4" = 1'-0"



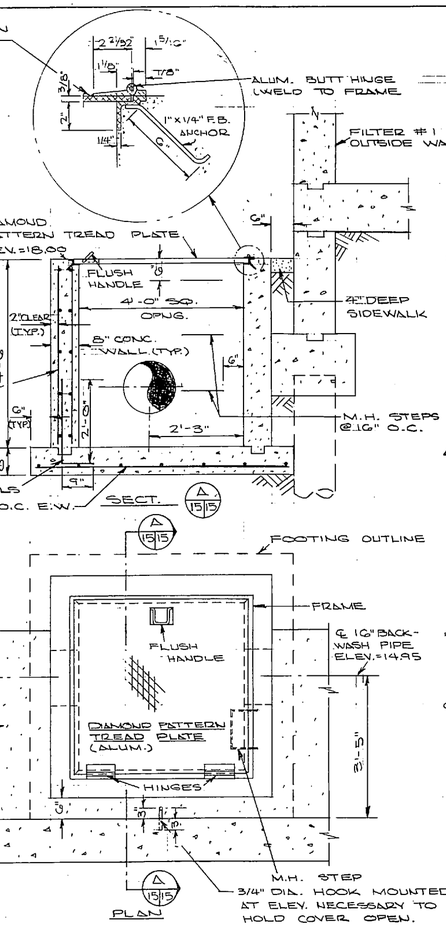
SECTION D / 05/15

SCALE: 1" = 1'-0"



SECTION C / 05/15

SCALE: 1" = 1'-0"

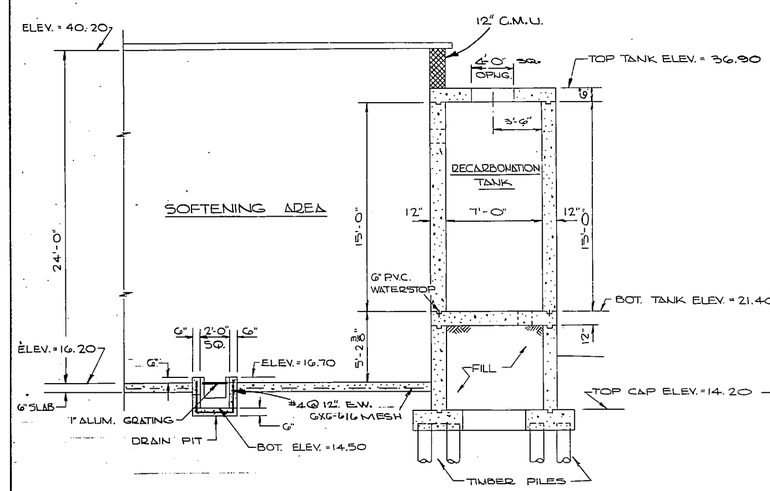


BACKWASH ORIFICE PIT DETAIL

SCALE: 3/4" = 1'-0"

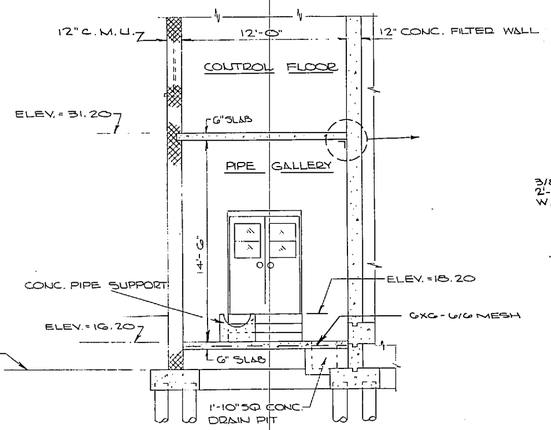
GENERAL NOTES STRUCTURAL

1. LOADING
   - A.) ROOF - 20 PSF
   - B.) EARTHQUAKE - ZONE 1
   - C.) DESIGN WIND VELOCITY 115 M.P.H.
   - D)
2. WORKING STRESSES:
   - A.) CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
   - B) REINFORCING STEEL SHALL BE ASTM A-615 GR. 40
   - C.) STRUCTURAL STEEL SHALL BE ASTM A-36
3. FOUNDATIONS:
   - A.) ALLOWABLE SOIL BEARING PRESSURE 2000 PSF.
   - B.) DESIGN PILE CAPACITY - 20 TONS
   - C.) PILE BID LENGTH - 39'
   - D.) FOR FILL AND/OR BACKFILL ON WHICH FLOOR SLABS ARE TO REST USE SAND, CRUSHED STONE OR GRAVEL. PUDDLE SAND IF USED.
   - E.) ALL WALL & COLUMN FOOTINGS SHALL REST ON UNDISTURBED EARTH UNLESS OTHERWISE SHOWN.
4. STRUCTURAL STEEL:
   - A.) ALL CONNECTIONS SHALL BE AISC FRAMED BEAM CONNECTIONS USING ASTM A-325 BOLTS WITH THREADS EXCLUDED FROM SHEAR PLANE.
   - B.) ALL JOIST, BEAMS, LINTELS & BEAM BEARING PLATES RESTING ON MASONRY SHALL BEAR ON SOLID CONCRETE BLOCK OR ON BRICK AT LEAST THREE COURSES HIGH.
   - C.) WELDS SHALL BE MADE USING E-70 LOW HYDROGEN ELECTRODES.
   - D) ANCHOR BOLTS SHALL BE ASTM A-307
   - E.) OPEN WEB STEEL JOIST SHALL CONFORM TO SPECIFICATIONS OF STEEL JOIST INSTITUTE.
5. CONCRETE:
   - A.) CONCRETE COVER FOR REINFORCING STEEL TO BE IN ACCORDANCE WITH THE A.C.I. CODE.
   - B.) ALL FLOOR SLABS & WALKS ON GRADE SHALL BE REINFORCED WITH 6x6-6/6 MESH UNLESS NOTED.
6. MASONRY:
   - A.) EXTERIOR CONCRETE MASONRY WALLS ARE CONSIDERED TO BE STRUCTURAL MASONRY. W/COMPRESSIVE STRENGTH OF 1000 PSI W/TYPE M OR S MOTOR.
   - B.) TIE WYTHES WITH HORIZONTAL REINFORCING.
   - C.) PRECAST CONCRETE LINTELS, STRENGTH 3000 PSI AT 28 DAYS SHALL BE PROVIDED OVER ALL OPENINGS MORE THAN 8' SPAN WHETHER OR NOT SHOWN OR DETAILED. LINTELS SHALL BE SAME THICKNESS AS WALLS, 7 5/8" DEEP UNLESS OTHERWISE SHOWN, AND 1'-4" LONGER THAN MASONRY OPENINGS REINFORCE WITH ONE #4 TOP & BOTTOM FOR EACH NOMINAL 4" OF WALL THICKNESS OR FRACTION THEREOF.



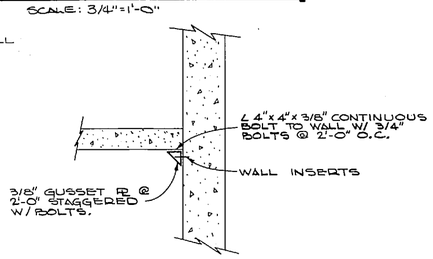
SECTION H / 11/15

SCALE: 1/4" = 1'-0"



SECTION I / 11/15

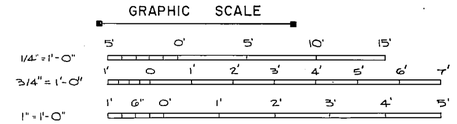
SCALE: 1/4" = 1'-0"



DETAIL - WALL GUSSET

3/4" = 1'-0"

GRAPHIC SCALE



NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4237 J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L. / D.B. CHK. M.L.E.
PROJ. MGR. M.L. ECH. ENGR. J.L.W.
SUBMITTED BY: M. L. Elrod DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD FPM DIR J. Davis
APPROVED: DATE 9/12/74
OFFICER IN CHARGE
APPROVED: DATE 8 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.

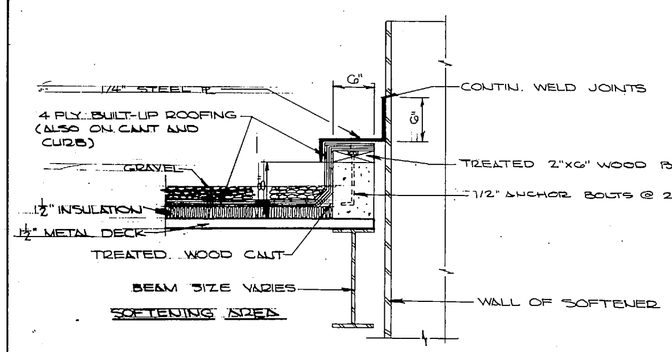
NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

WATER TREATMENT PLANT
STRUCTURAL SECTIONS

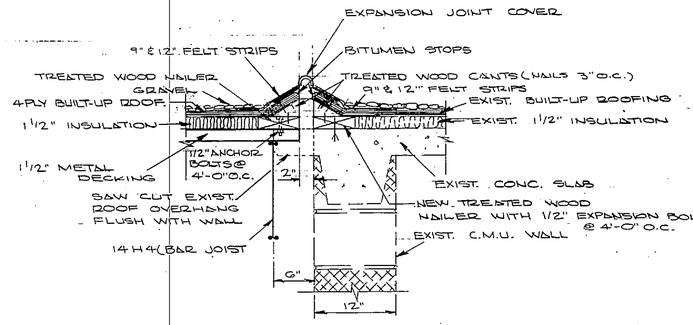
SIZE	CODE IDENT. NO.	NAVFAC TRACING NO.
F	80091	4016915
		CONSTR. CONTR. NO. [illegible]
SCALE AS SHOWN	SPEC. 05-[illegible]-1155	SHEET 29 of 83

E.F.D. NO. 116915

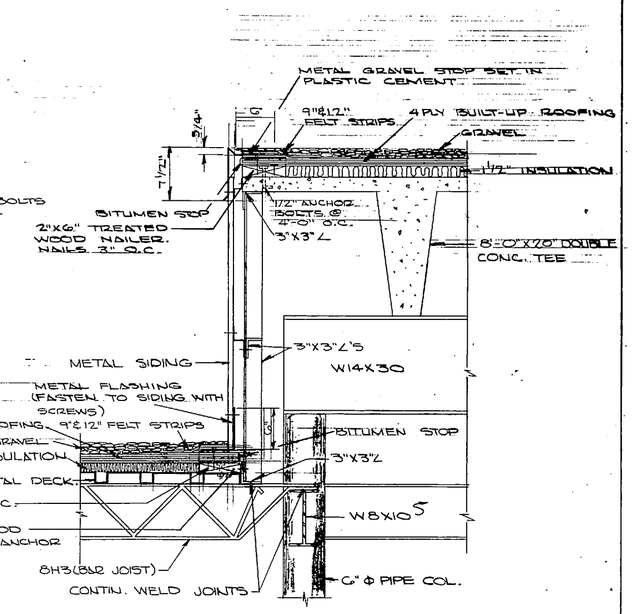
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



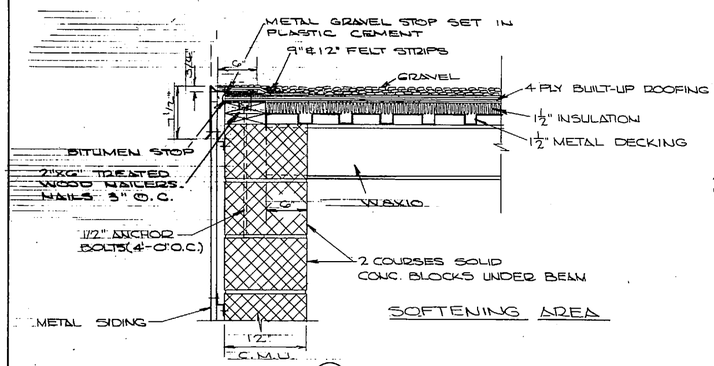
SECTION D 13/16
SCALE: 1½"=1'-0"



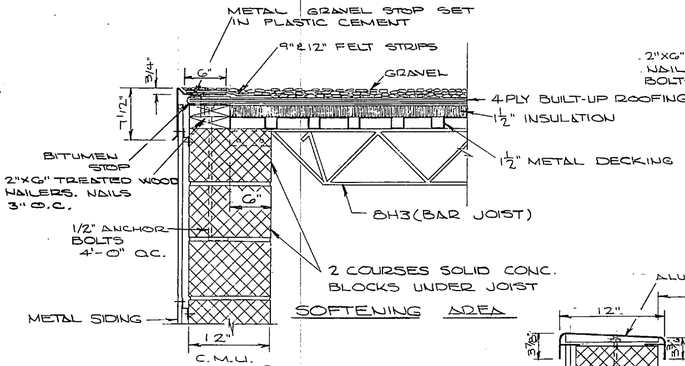
SECTION I 13/16
SCALE: 1½"=1'-0"



SECTION C 13/16
SCALE: 1½"=1'-0"



SECTION E 13/16
SCALE: 1½"=1'-0"



SECTION F 13/16
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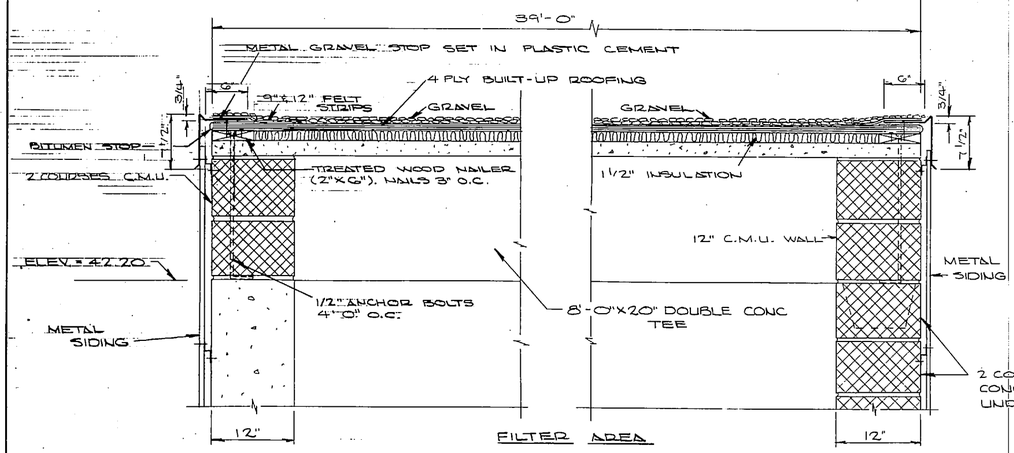

SECTION G 13/16
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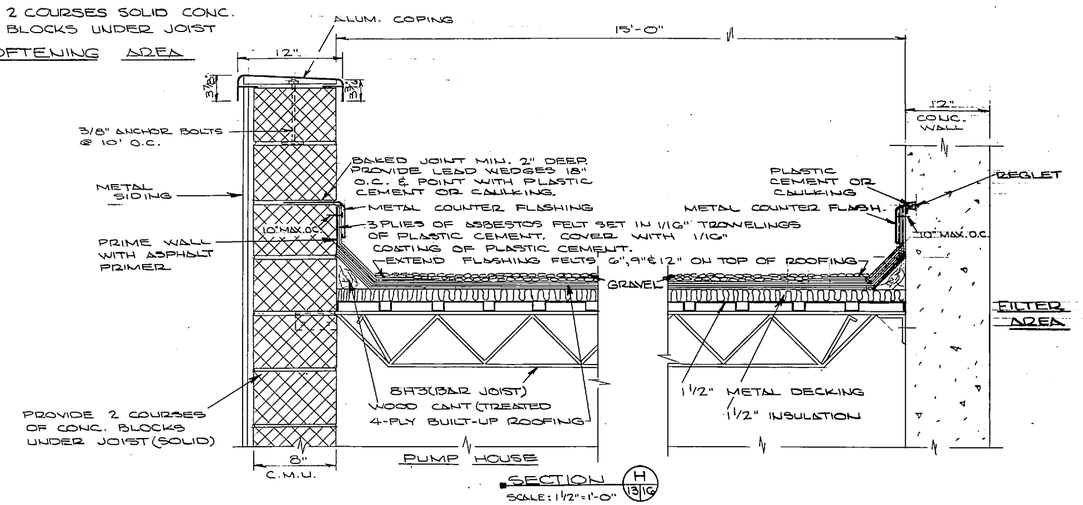


SECTION H 13/16
SCALE: 1½"=1'-0"

GRAPHIC SCALE
½"=1'-0" 1' 9" 6" 3" 0" 1' 2' 3'

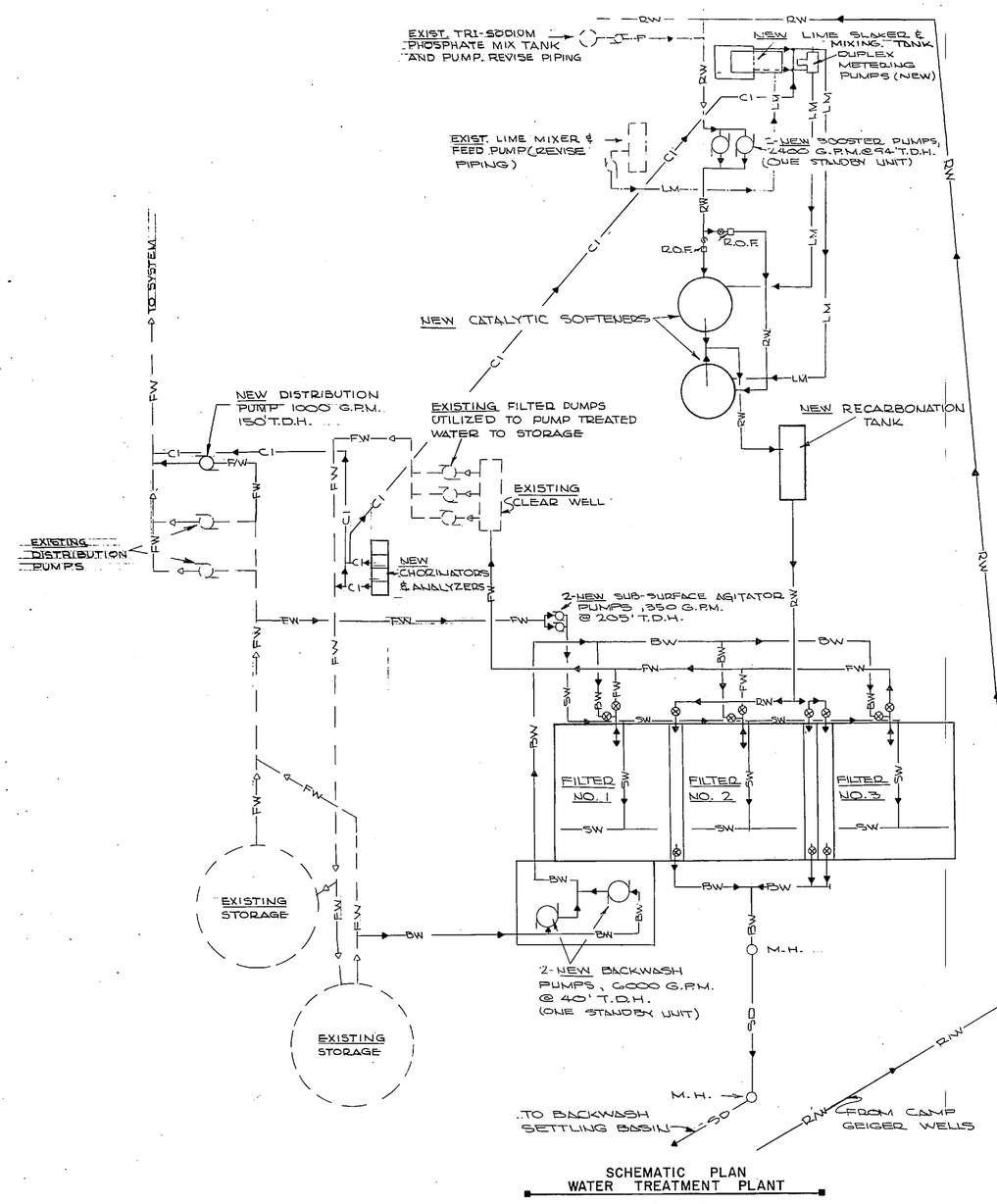
NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NOTE: SEE NAVFAC DWG. NO. 4016885 FOR ABBREV. AND LEGEND.

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 ENGINEER R. TIMMONS

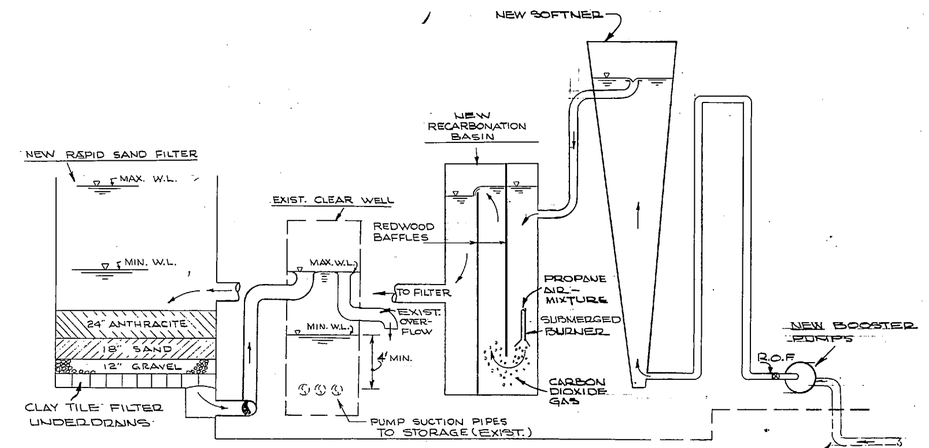
J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VA.
DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.	NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA
PROJ. MGR. CH. ENGR.	UTILITY EXPANSION
SUBMITTED BY Mick Elliott DATE 9/12/74	WATER TREATMENT PLANT ROOF DETAILS
FIRM MEMBER PRINCIPAL	
EFD RVD.	
HD NCE DR. J. Weeks	
APPROVED DATE 7/27/74	SIZE F · CODE IDENT. NO. 80091 · NAVFAC DRAWING NO. 4016916
OFFICER IN CHARGE	
APPROVED DATE 8 NOV 1974 FOR EFD FOR COMMANDER NAVFAC	CONTR. CONTR. NO. 62470-73-B-1155
	SCALE AS SHOWN · SPEC. 05-73-1155 · SHEET 30 of 83
	E.F.D. NO. 116916

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



SCHEMATIC PLAN
WATER TREATMENT PLANT

NO SCALE



VERTICAL FLOW SCHEMATIC

NO SCALE

NEW	EXIST.	REVISED	ITEM
—FW—	— —FW— —		FRESH WATER
—RW—	— —RW— —		RAW WATER
—SD—	NONE		STORM DRAIN
—BW—	NONE		BACKWASH LINE
—SW—	NONE		SUB-SURFACE WASH
—C1—	NONE		CHLORINE INJECTION
—LM—	—	—·—LM—·—	LIME MIXTURE
NONE	—	—·—P—·—	TRI-SODIUM PHOSPHATE MIXTURE
R.O.F.			RATE OF FLOW CONTROLLER

NOTE: SEE NAVFAC DWG. NO. 4016888 FOR ADDITION LEGEND AND ABBREVIATIONS.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L. / D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: Wm. R. Elliott DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD H. DIR J. Wells
APPROVED DATE
OFFICER-IN-CHARGE
APPROVED: 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER H. TIMMONS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

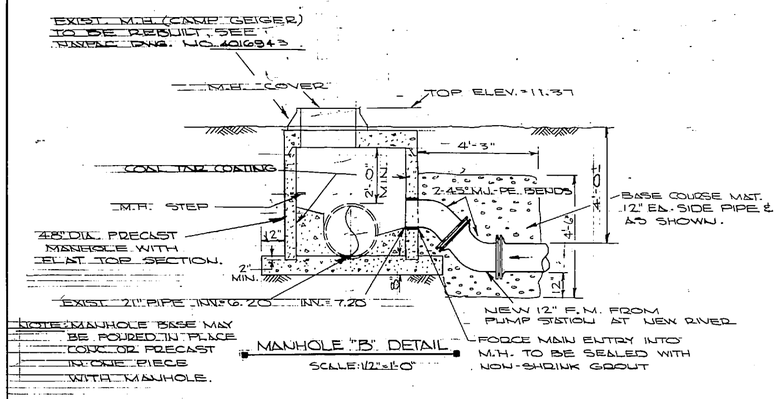
WATER TREATMENT PLANT SCHEMATICS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016917
		CONSTR. CONTR. NO.

SCALE AS SHOWN — SPEC. — SHEET 31 OF 83

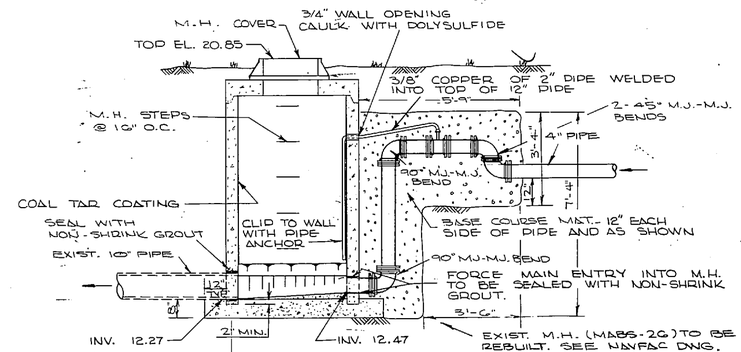
E.F.D. NO. 116917

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



MANHOLE "B" DETAIL

SCALE: 1/2" = 1'-0"

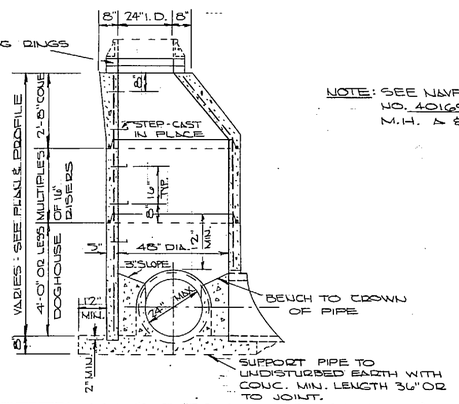


MANHOLE "A" DETAIL

SCALE: 1/2" = 1'-0"

ABBREVIATIONS

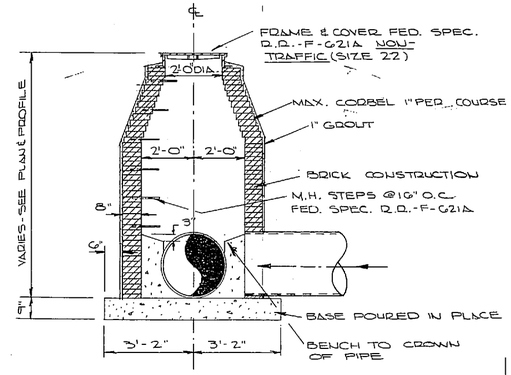
A.	AMPS	INV.	INVERT
BIT.	BITUMINOUS	MAX.	MAXIMUM
BLDG.	BUILDING	M.H.	MANHOLE
C.B.	CATCH BASIN	MIN.	MINIMUM
C.C.	CENTER-TO-CENTER	N.&C.	NAIL & CAP
C.M.U.	CONCRETE MASONRY UNIT	NO.	NUMBER
C.I.	CAST IRON	O.C.	ON CENTER
C.O.	CLEAN OUT	OPNG.	OPENING
CONC.	CONCRETE	P	PHASE
CONN.	CONNECTION	P.P.	POWER POLE
CONT.	CONTINUOUS	PREFAB.	PREFABRICATE
D.I.	DROP INLET	PVMT.	PAVEMENT
DN.	DOWN	PAV.	PAVEMENT
DWG.	DRAWING	REINF.	REINFORCING
EA.	EACH	SAN.	SANITARY
ELEC.	ELECTRICAL	S.D.	STORM DRAIN
ELECT.	ELECTRICAL	SEW.	SEWER
EL.	ELEVATION	SHT.	SHEET
ELEV.	ELEVATION	SQ.	SQUARE
ENCL.	ENCLOSURE	STA.	STATION
E./P.	EDGE OF PAVEMENT	STD.	STANDARD
E.W.	EACH WAY	STL.	STEEL
EXIST.	EXISTING	STM.	STEAM
F.D.	FLOOR DRAIN	SW.	SWITCH
F.H.	FIRE HYDRANT	TEL.	TELEPHONE
FIN.	FINISHED	TYP.	TYPICAL
FL.	FLOOR	T.	TOP
F.D.P.	FIBERGLASS REINFORCED PLASTIC	V.	VOLTS
F.M.	FORCE MAIN	VOLT.	VOLTAGE
F.W.	FRESH WATER	VERT.	VERTICAL
HORIZ.	HORIZONTAL	W.	WITH
H.P.S.	HIGH PRESSURE STEAM	ALUM.	ALUMINUM
I.D.	INTERNAL DIA.	APPROX.	APPROXIMATE
SECT.	SECTION	LOC.	LOCATION
ST.	STARTER	RAD.	RADIUS
BKR.	BREAKER	RM.	ROOM
FRM.	FRAME	CHLOR.	CHLORINE
MFR.	MANUFACTURED	G.V.	GATE VALVE
MTD.	MOUNTED	TREAT.	TREATMENT
MTG.	MOUNTING	R.O.W.	RIGHT-OF-WAY
SPA.	SPACES	R.R.	RAILROAD
SECT.	SECTION	℄	CENTER LINE
T/B	TOP OF BANK	MAT.	MATERIAL
CKT.	CIRCUIT	INC.	INCREASER
CEM.	CEMENT	RED.	REDUCER
		G.V.	GATE VALVE
		C.V.	CHECK VALVE
		COND.	CONDENSATION
		P/B	PUSH BUTTON
		P/BD	PANEL BOARD
		A.F.	ABOVE FLOOR
		O.H.	OVERHEAD
		F.C.	FOOT CANDLES
		PL	PLATE
		DPST	DOUBLE POLE, SINGLE THROW
		DPDT	DOUBLE POLE, DOUBLE THROW



PRECAST CONCRETE MANHOLE (POURED IN PLACE BASE)

NO SCALE

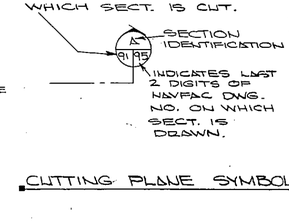
NOTE: SEE NAVFAC DWG. NO. 4016861 FOR M.H. A & B.



BRICK MANHOLE

SCALE: 1/2" = 1'-0"

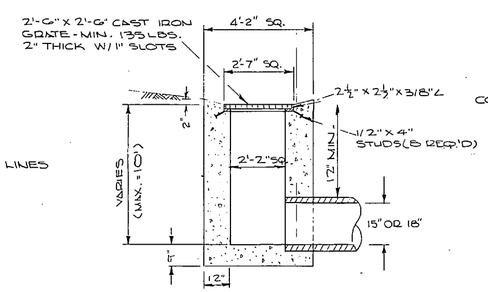
INDICATES LAST 2 DIGITS OF NAVFAC DWG. NO. ON WHICH SECT. IS CUT.



CUTTING PLANE SYMBOL

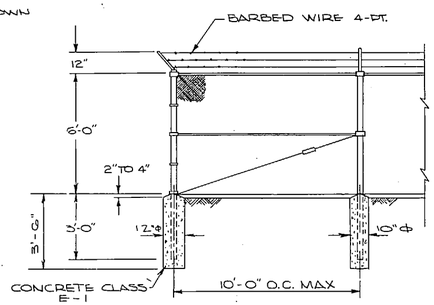
LEGEND

NEW	EXIST.	DESCRIPTION
D/W	D.W.	RAW WATER LINE
F/W	F.W.	FRESH WATER LINE
F.M.	F.M.	FORCE MAIN
SAN.	S	SANITARY SEWER
L.P.G.		LOW PRESSURE GAS (PROPANE)
A		AIR LINE
		SURVEY LINE
P	E	UNDERGROUND POWER LINE
P		OVERHEAD POWER LINE
SD	SD	STORM DRAIN
T	T	TELEPHONE LINE
10	10	CONTOURS
6.0 OR + 6.0		SPOT ELEVATIONS
		EXPOSED PIPING
		HIDDEN PIPING
		STRUCTURES AND OTHER OBJECT LINES
		BRICK WALL
		C.M.U. WALL
		CONC WALL
		WATER LEVEL
		CRUSHED STONE SURFACE
L.S.		LIME SLURRY LINE FROM DUPLEX METERING PUMP.

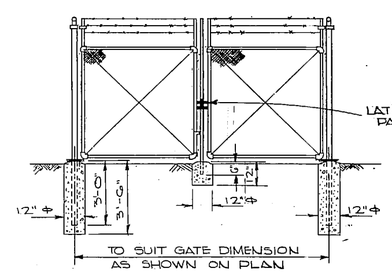


DROP INLET

SCALE: 1/2" = 1'-0"



CORNERS



GATES

FENCE DETAILS

SCALE: 3/8" = 1'-0"

NOTE: GENERAL ABBREVIATIONS & LEGEND ARE APPLICABLE THROUGHOUT PLANS. SEE INDIVIDUAL DRAWINGS FOR SPECIALIZED ADDITIONAL ABBREVIATIONS.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

GRAPHIC SCALE

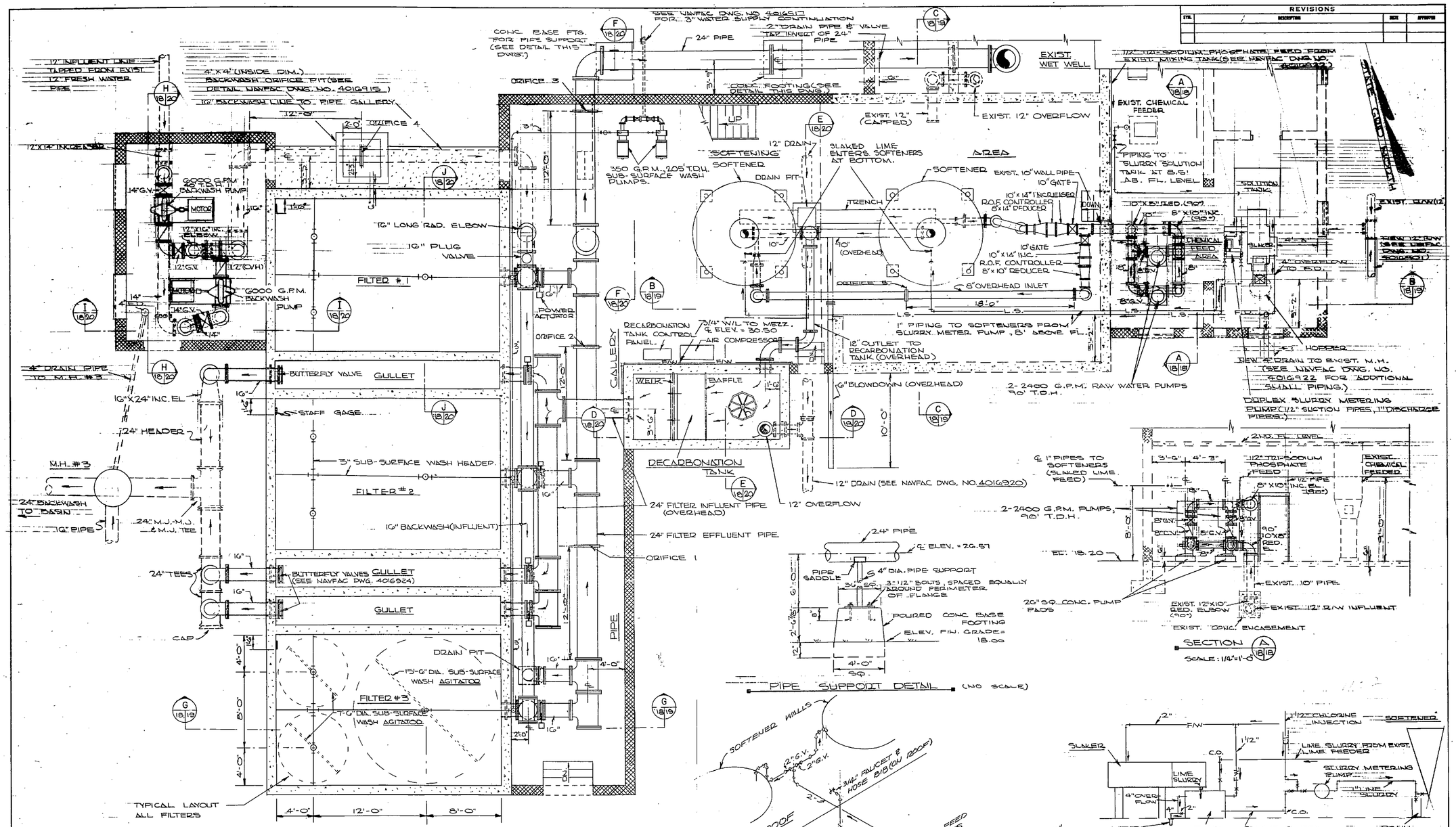
3/8" = 1'-0" 1' 0' 2' 4' 6' 8' 10' 12' 14'

1/2" = 1'-0" 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VA.
DES. M.L.E. DR. C.L./D.B. CHK. M.L.E. PROJ. MGR. M.L.E. CH. ENGR. J.H.H.	NEW RIVER MARINE CORPS AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA
SUBMITTED BY: J. K. Beal DATE 9/12/74	UTILITY EXPANSION
FIRM MEMBER PRINCIPAL	MISCELLANEOUS SITE DETAILS
EFD RVD	
HD DIR. J. DAVIS	
APPROVED DATE 7/24/74	SIZE F; CONE IDENT. NO. 80091; NAVFAC DRAWING NO. 4016889
OFFICER IN CHARGE	
APPROVED 4 NOV 1974 FOR EFD FOR COMMANDER, NAVFAC	CONSTR. CONTR. NO. N62470-73-B-1155
	SCALE AS SHOWN; SPEC. 05-73-1155; SHEET 3 of 83

E.F.D. NO. 116889



FLOOR PLAN (NEW BUILDING)
SCALE: 1/4" = 1'-0"

NOTES: (1) SEE NAVFAC DWG. NO. 4016889 FOR ABBREVIATIONS AND LEGEND.
(2) SEE NAVFAC DWG. NO. 4016899 FOR CONTINUATION OF BACKWASH BASIN.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

WATER TREATMENT PLANT
PLANT PIPING FLOOR PLAN

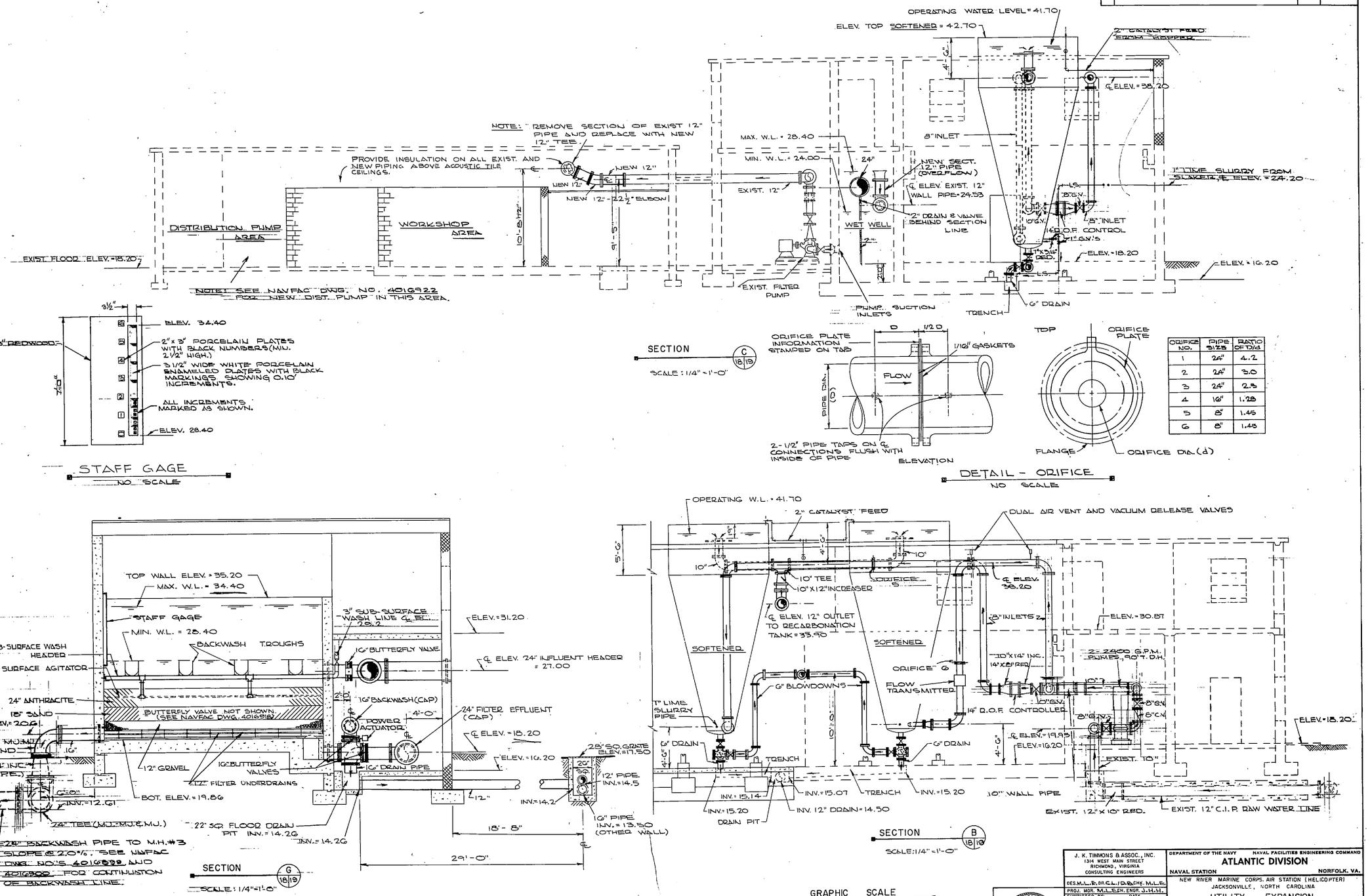
DES. M.L.E. DR. C.L./D.R. CHK. M.L.E.
PROJ. MGR. M.L.E. F.H. ENGR. J.H.H.
SUBMITTED BY: M. L. Elliott DATE 5/12/76
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE 7/8/74
OFFICER IN CHARGE
APPROVED — DATE 6 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 E

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016918
CONSTR. CONTR. NO.	362470-73-B-1155	
SCALE AS SHOWN	SPEC. 05-73-1155	SHEET 32 of 83

E.F.D. NO. 116918

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L. / D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. H. ENGR. J.H.H.
SUBMITTED BY: M. L. Elwell DATE 6/12/72
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

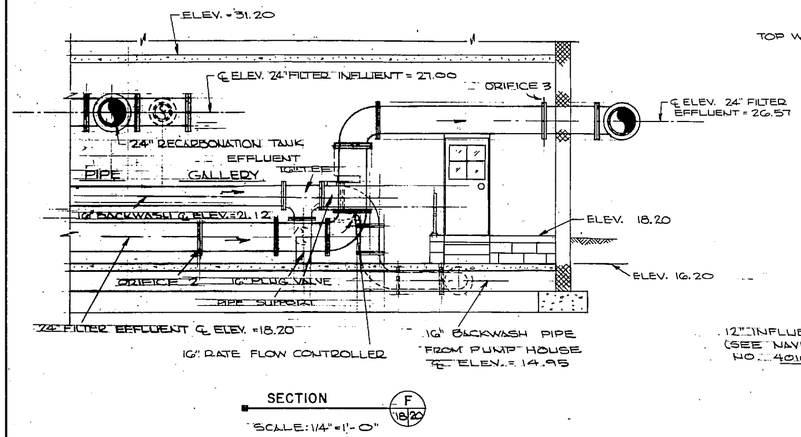
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION
WATER TREATMENT PLANT
PIPING SECTIONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016919
CONSTR. CONTR. NO. N62470 73 B-1155		
SCALE AS SHOWN	SPEC. 05-73-1155	SHEET 33 # 83

E.F.D. NO. 116919

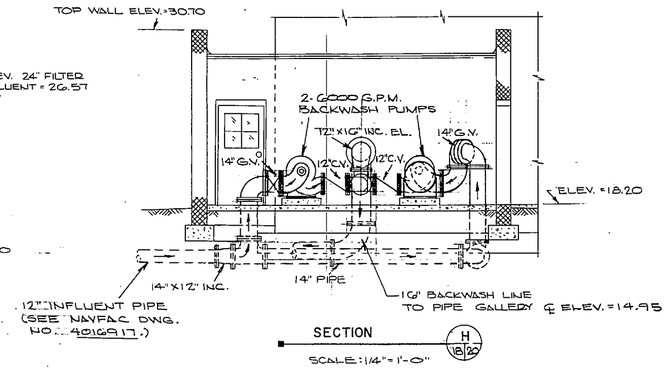
ORIFICE NO.	PIPE SIZE	RATIO OF D/d
1	24"	4.2
2	24"	3.0
3	24"	2.3
4	12"	1.28
5	8"	1.45
6	8"	1.45

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



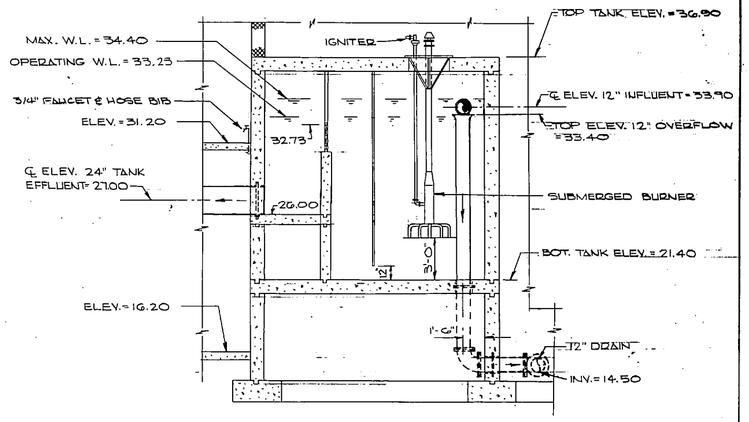
SECTION F 18/20

SCALE: 1/4" = 1'-0"



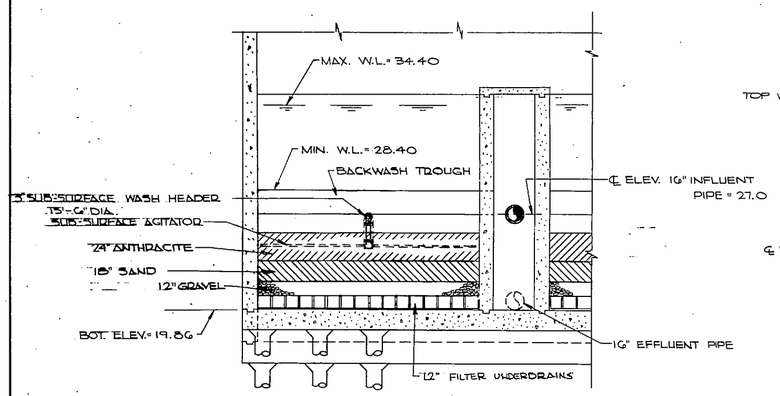
SECTION H 18/20

SCALE: 1/4" = 1'-0"



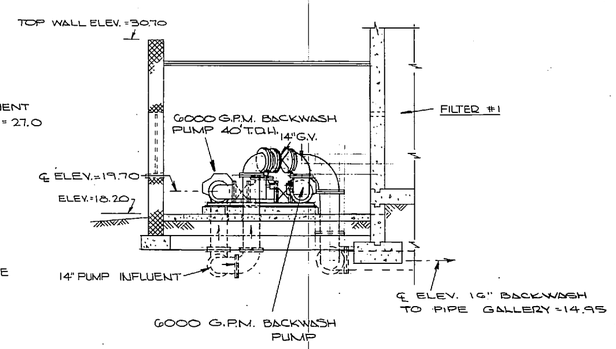
SECTION D 18/20

SCALE: 1/4" = 1'-0"



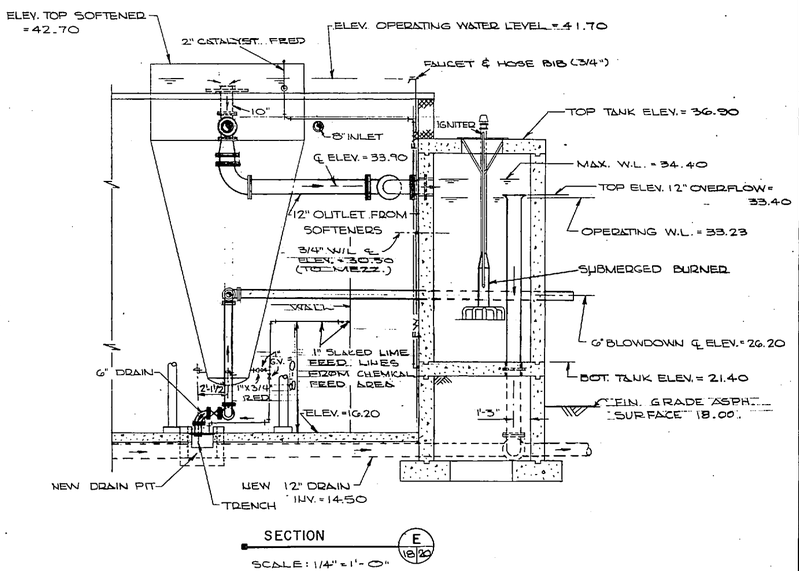
SECTION J 18/20

SCALE: 1/4" = 1'-0"



SECTION I 18/20

SCALE: 1/4" = 1'-0"



SECTION E 18/20

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

SCALE: 1/4" = 1'-0"

5' 0' 5' 10' 15'

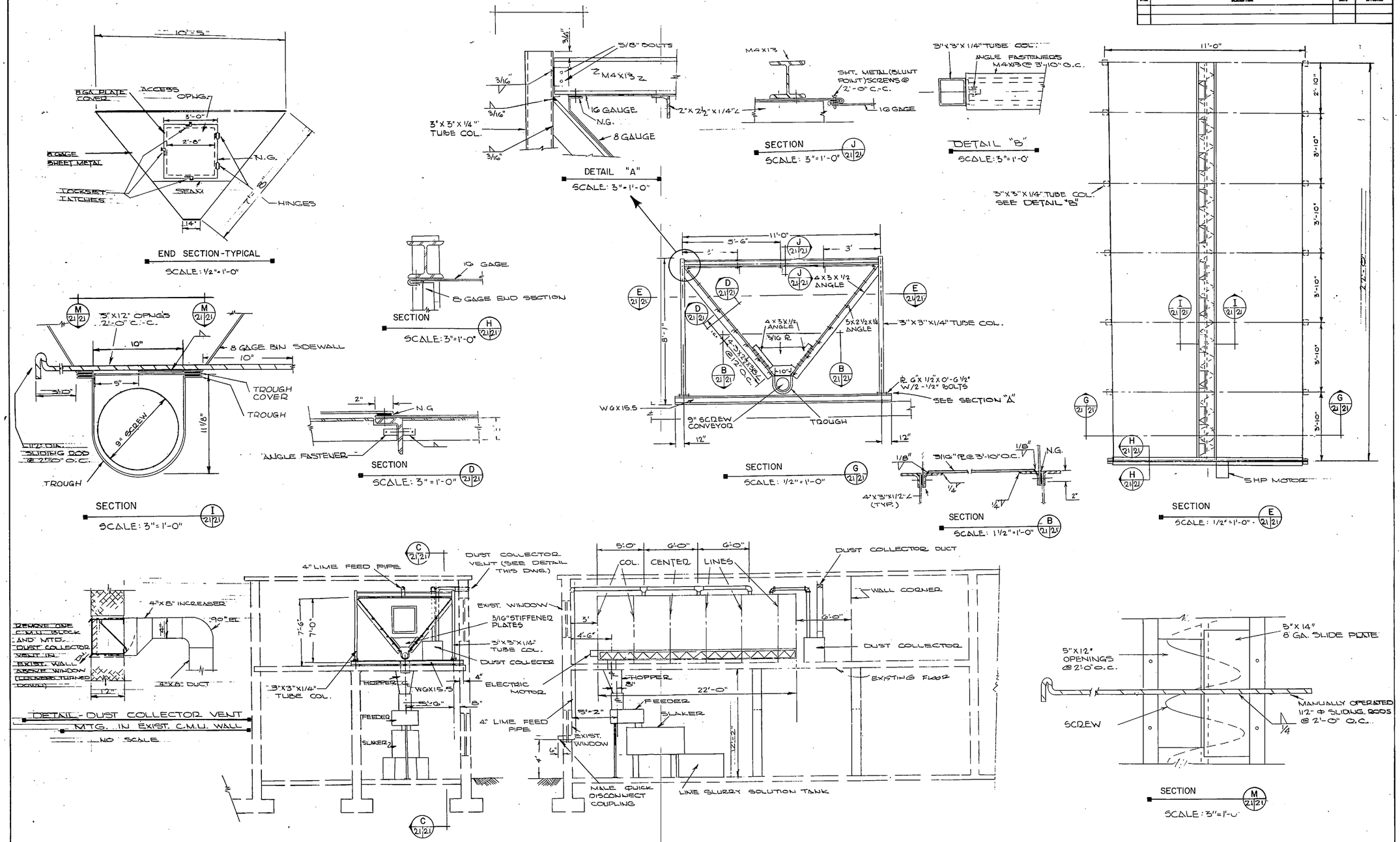
NOTE: SEE NAVFAC DWG. NO. 4016889 FOR LEGEND AND ABBREVIATIONS.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VA.
DES. M.L.E. DR. C.L./D.B. CHK. M.L.E. PROJ. MGR. M.L.E. CH. ENGR. J.H.H.	NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA
SUBMITTED BY: M. L. Elliott DATE 9/12/74 FIRM MEMBER PRINCIPAL	UTILITY EXPANSION
EFD RVD HD DIR	WATER TREATMENT PLANT PIPING SECTIONS
APPROVED DATE	SIZE F · CODE IDENT. NO. 80091 · DRAWING NO. 4016920
OFFICER IN CHARGE APPROVED 4 NOV 1974 FOR EFD FOR COMMANDER NAVFAC	CONTR. CONTR. NO. N62470-73-B-1155 · SCALE AS SHOWN · SPEC. 05-73-1155 · SHEET 34 of 83
	1 · E.F.D. NO. 116920

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

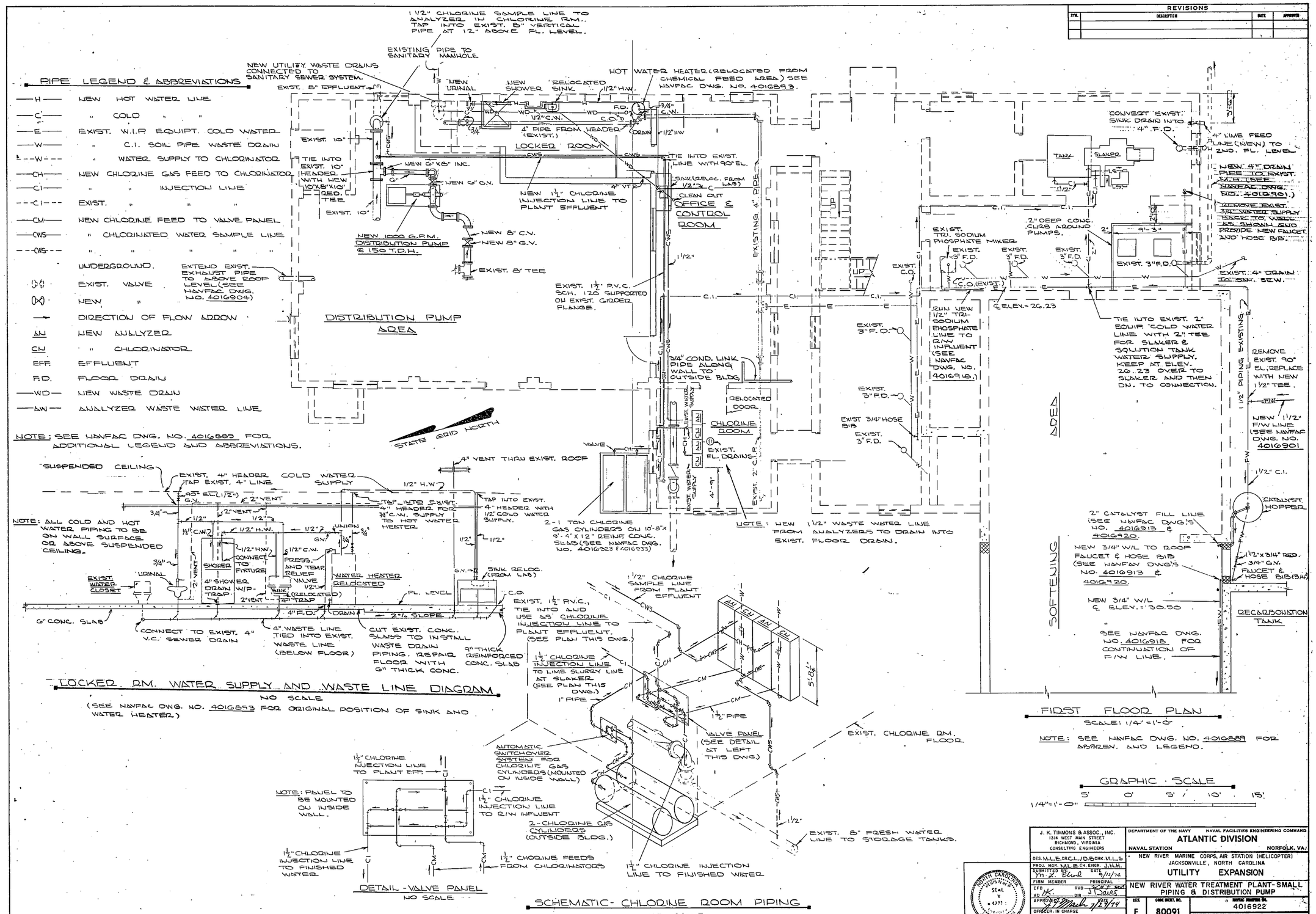


REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

PIPE LEGEND & ABBREVIATIONS

—H—	NEW HOT WATER LINE
—C—	" COLD " "
—E—	EXIST. W.I.P. EQUIPT. COLD WATER
—W—	" C.I. SOIL PIPE WASTE DRAIN
--W--	" WATER SUPPLY TO CHLORINATOR
—CH—	NEW CHLORINE GAS FEED TO CHLORINATOR
—CI—	" " INJECTION LINE
--CI--	EXIST. " " "
—CM—	NEW CHLORINE FEED TO VALVE PANEL
—CWS—	" CHLORINATED WATER SAMPLE LINE
--CWS--	" " " " "
	UNDERGROUND.
	EXIST. VALVE
	NEW "
	DIRECTION OF FLOW ARROW
AN	NEW ANALYZER
CU	" CHLORINATOR
EFF.	EFFLUENT
F.D.	FLOOR DRAIN
—WD—	NEW WASTE DRAIN
—AW—	ANALYZER WASTE WATER LINE

NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ADDITIONAL LEGEND AND ABBREVIATIONS.



LOCKER RM. WATER SUPPLY AND WASTE LINE DIAGRAM

NO SCALE

(SEE NAVFAC DWG. NO. 4016853 FOR ORIGINAL POSITION OF SINK AND WATER HEATER)

DETAIL - VALVE PANEL

NO SCALE

SCHEMATIC - CHLORINE ROOM PIPING

NO SCALE

FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"

NOTE: SEE NAVFAC DWG. NO. 4016888 FOR ABBREV. AND LEGEND.

GRAPHIC SCALE

5' 0' 5' 10' 15'

1/4" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

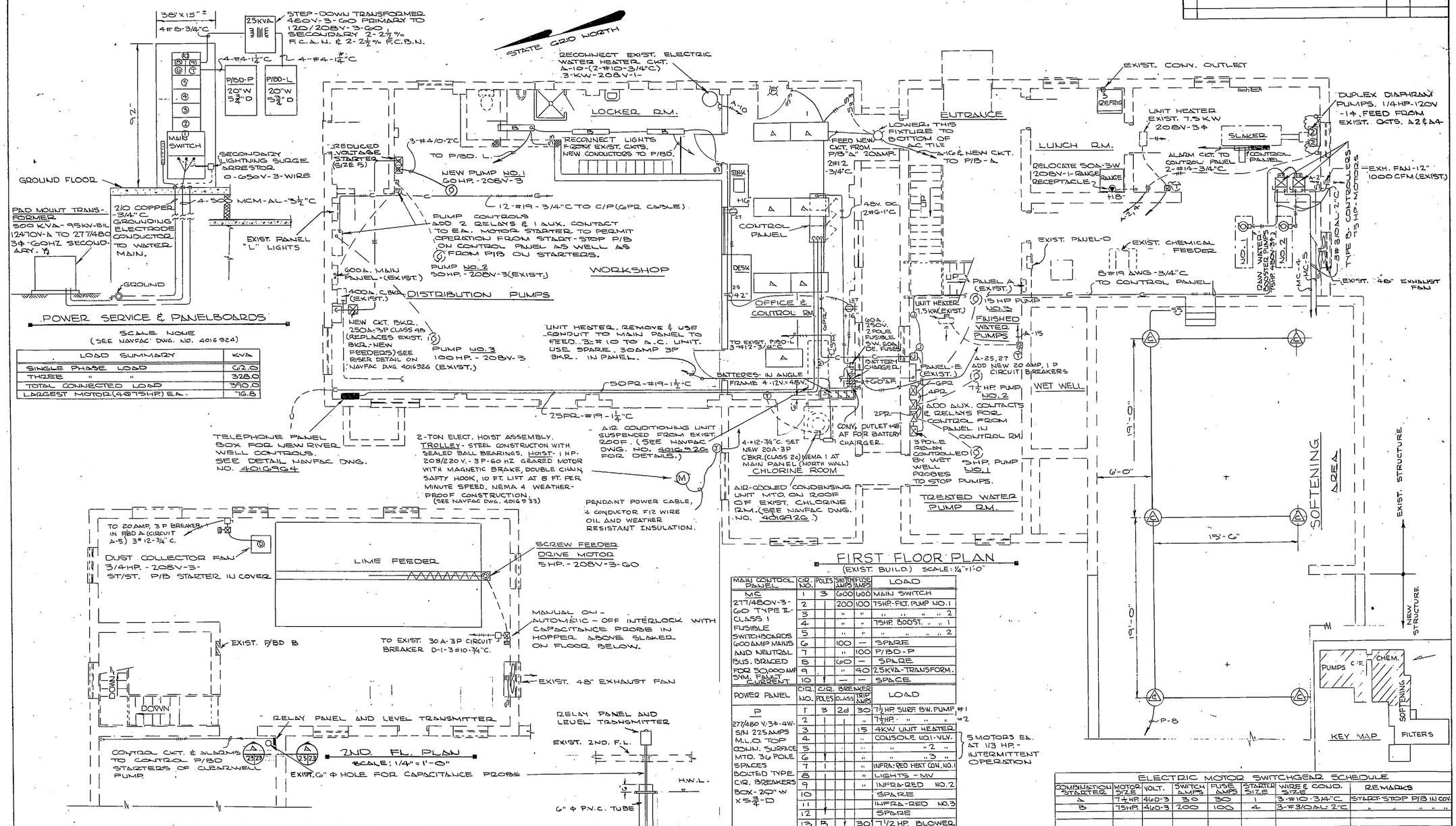
J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VA.
DES. M.L.E. DR. C.L. / D.B. CHK. M.L.E.	NEW RIVER MARINE CORPS, AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.	UTILITY EXPANSION
SUBMITTED BY: M. L. Elliott DATE: 5/12/74	NEW RIVER WATER TREATMENT PLANT-SMALL PIPING & DISTRIBUTION PUMP
FIRM MEMBER PRINCIPAL	
EFD RVD: Robert Sea	
HD K. DR. J. Sears	
APPROVED: V. Mark 7/29/74 DATE	
OFFICER IN CHARGE	
APPROVED DATE	
FOR EFD FOR COMMANDER NAVFAC	

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 6273 J. K. TIMMONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016922
	CONSTR. CONTR. NO.	N62470-73-B-1155
SCALE AS SHOWN	SPEC. 05-73-1155	SHEET 36 OF 83

E.F.D. NO. 116922

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



LOAD SUMMARY	KVA
SINGLE PHASE LOAD	62.0
THREE " "	328.0
TOTAL CONNECTED LOAD	390.0
LARGEST MOTOR (4@75HP) EA.	16.8

MAIN CONTROL PANEL	CIR. NO.	POLES	SWITCH AMPS	FUSE AMPS	LOAD
MC 277/480V-3-60 TYPE II-CLASS 1 FUSIBLE SWITCHBOARDS 600AMP MAINS AND NEUTRAL BUS. BRACED FOR 50,000 AMP SYM. FAULT CURRENT	1	3	600	600	MAIN SWITCH
	2		200	100	75HP-FILT. PUMP NO.1
	3		"	"	" " " " 2
	4		"	"	75HP. BOOST. " " 1
	5		"	"	" " " " 2
	6		100	—	SPARE
	7		"	100	P/BD-P
	8		60	—	SPARE
	9		"	40	2.5KVA-TRANSFORM.
	10		—	—	SPACE

POWER PANEL	CIR. NO.	CIR. POLES	BREAKER CLASS	TRIP AMPS	LOAD
P 277/480 V.-3φ-4W-S/N 225 AMPS M.L.O. TOP CONN. SURFACE MTD. 36 POLE SPACES BOLTED TYPE CIR. BREAKERS BOX-20" W X 5¾" D	1	3	2d	30	7½ HP. SURF BW. PUMP #1
	2			"	7½ HP. " " " " #2
	3			15	4KW UNIT HEATER
	4			"	COUSOLE 401-VLV.
	5			"	" " 2 "
	6			"	" " 3 "
	7			"	INFRA-RED HEAT CON. NO.1
	8			"	LIGHTS-MV
	9			"	INFRA-RED NO.2
	10				SPARE
	11				INFRA-RED NO.3
	12				SPARE
	13	3		30	7½ HP. BLOWER

5 MOTORS EA. AT 1/3 HP.-INTERMITTENT OPERATION

LIGHTING PANEL	CIR. NO.	CIR. POLES	BREAK. CLASS	TRIP AMPS	LOAD
L 120/208V-3φ-4W S/N 100 AMPS M.L.O. TOP CONN. SURF MTD. 30 POLE SPACES BOLTED TYPE CIR. BREAKERS BOX-20" W X 5¾" D	1	1	1a	20	LIGHTING
	2				CONV. OUTLETS
	3				LIGHTING
	4				CONV. OUTLETS
	5				LIGHTING
	6				CONV. OUTLETS
	7			15	RECARBONATION UNIT
	8			"	EMERG. LT.-EXIT
	9				
	10				
	11				
	12				

ELECTRIC MOTOR SWITCHGEAR SCHEDULE							
COMBINATION STARTER	MOTOR SIZE	VOLT.	SWITCH AMPS	FUSE AMPS	STARTER SIZE	WIRE & CONDUIT SIZE	REMARKS
A	7½ HP.	460-3	30	30	1	3-#10-3/4"C	START-STOP P/B IN COV.
B	75HP.	460-3	200	100	4	3-#3/0 AL-2"C	" " " " "

LIGHTING FIXTURE SCHEDULE					
FIXTURE TYPE SYMBOL	LANT. DIV. PLATE AND TYPE SEE SPECS.-OR DETAIL ON NAVFAC DWG. NO.	NUMBER AND TYPE LAMPS	VOLTAGE	MOUNTING	REMARKS
A	16-C TYPE 2	4-40W-T12RS	120-277	2'X4' AC. TILE LAY-IN CEIL.	—
B	16-H-2	2-40W-T12DS	"	SURFACE MTD. ON CEIL.	—
C	16-O-3	400W-MV	"	3/4" CONDUIT STEM	BOT. OF FIXT. 48" BELOW CEIL.
D	16-V-1	1-100W IF INCAND	120	WALL MTD.-8' AB. DOOR	AT EXTERIOR DOORS
E	16-X-	2-PAR-38-150W-FL	"	AS INDICATED	
F	16-Z-1, 2, 3		"	" "	EXIT LIGHTS
G	16-C-C-	400W-COLOR IMPROVED MV.	240	14'-0" I OVERALL HEIGHT	PHOTO-CELL CONT. IN DOME.

NOTE:
ALL WORK AND MATERIAL NOT SPECIFICALLY NOTED AS "EXISTING" IS NEW AND SHALL BE PROVIDED BY THE CONTRACTOR.

GRAPHIC SCALE
1/4" = 1'-0" 5' 0' 5' 10' 15'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 X ENGINEER JOHN H. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS, AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

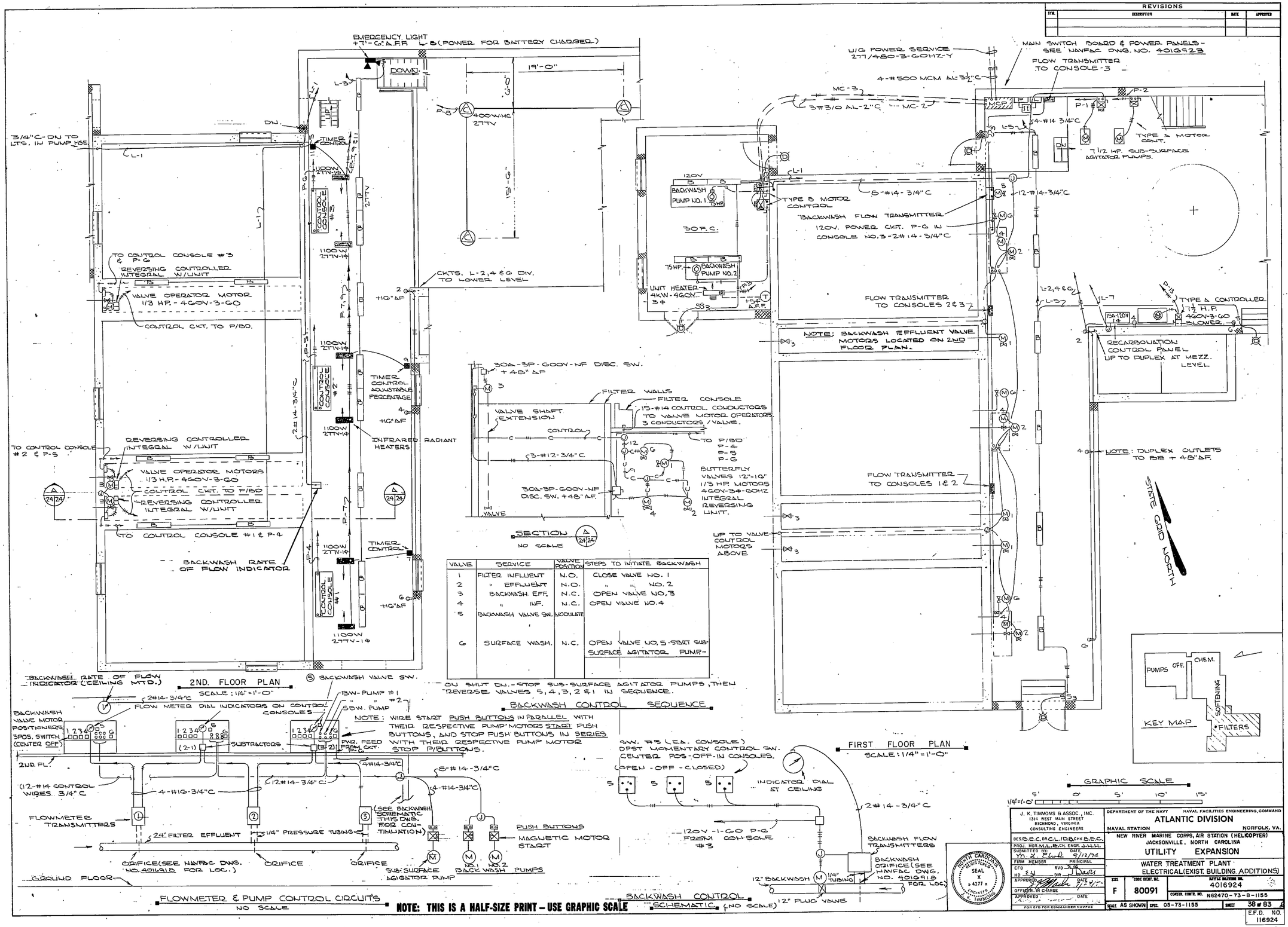
WATER TREATMENT PLANT
ELECTRICAL (EXIST. BUILDING)

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: M. L. Eland DATE 9/14/78
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED 7/29/74
OFFICER-IN CHARGE — DATE
APPROVED
FOR EFD FOR COMMANDER NAVFAC

SIZE	CONT. IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016923
		CONSTR. CONTR. NO. N62470-73-B-1155
SCALE AS SHOWN	SPEC. 05-73-1155	SHEET 37 of 83

E.F.D. NO. 116923

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



VALVE	SERVICE	VALVE POSITION	STEPS TO INITIATE BACKWASH
1	FILTER INFLUENT	N.O.	CLOSE VALVE NO. 1
2	" EFFLUENT	N.O.	" " NO. 2
3	BACKWASH EFF.	N.C.	OPEN VALVE NO. 3
4	" INF.	N.C.	OPEN VALVE NO. 4
5	BACKWASH VALVE SW.	MODULATE	
6	SURFACE WASH.	N.C.	OPEN VALVE NO. 5 - START SUB-SURFACE AGITATOR PUMP -

OU SHUT DN. - STOP SUB-SURFACE AGITATOR PUMPS, THEN REVERSE VALVES 5, 4, 3, 2 & 1 IN SEQUENCE.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

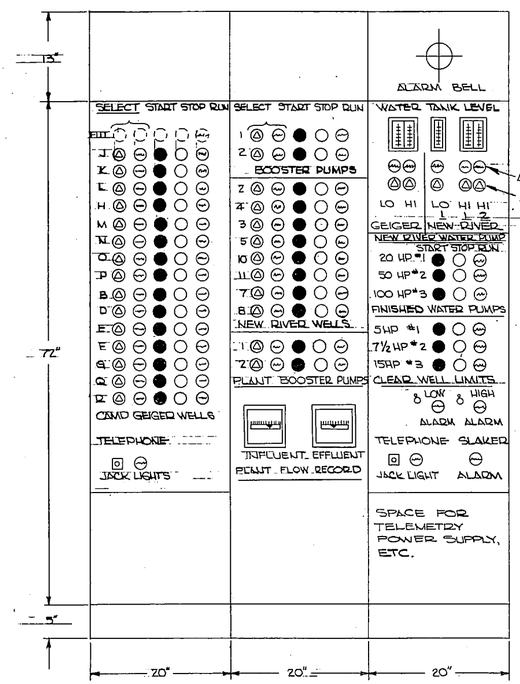
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION — ATLANTIC DIVISION — NORFOLK, VA.

DES. B.E.C. DR. C.L. / D.B. CHK. B.E.C.
PROJ. MGR. M.L.E. CH. ENGR. J.L.H.
SUBMITTED BY: M. L. Eard DATE 5/12/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DR
APPROVED — DATE
OFFICER IN CHARGE
APPROVED — DATE
FOR EFD FOR COMMANDER NAVFAC

NEW RIVER MARINE CORPS, AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION
WATER TREATMENT PLANT
ELECTRICAL (EXIST. BUILDING ADDITIONS)

SIZE F — CODE IDENT. NO. 80091 — NAVFAC DRAWING NO. 4016924
CONSTR. CONTR. NO. N62470-73-B-1155
SCALE AS SHOWN — SPEC. 05-73-1155 — SHEET 38 of 83
E.F.D. NO. 116924

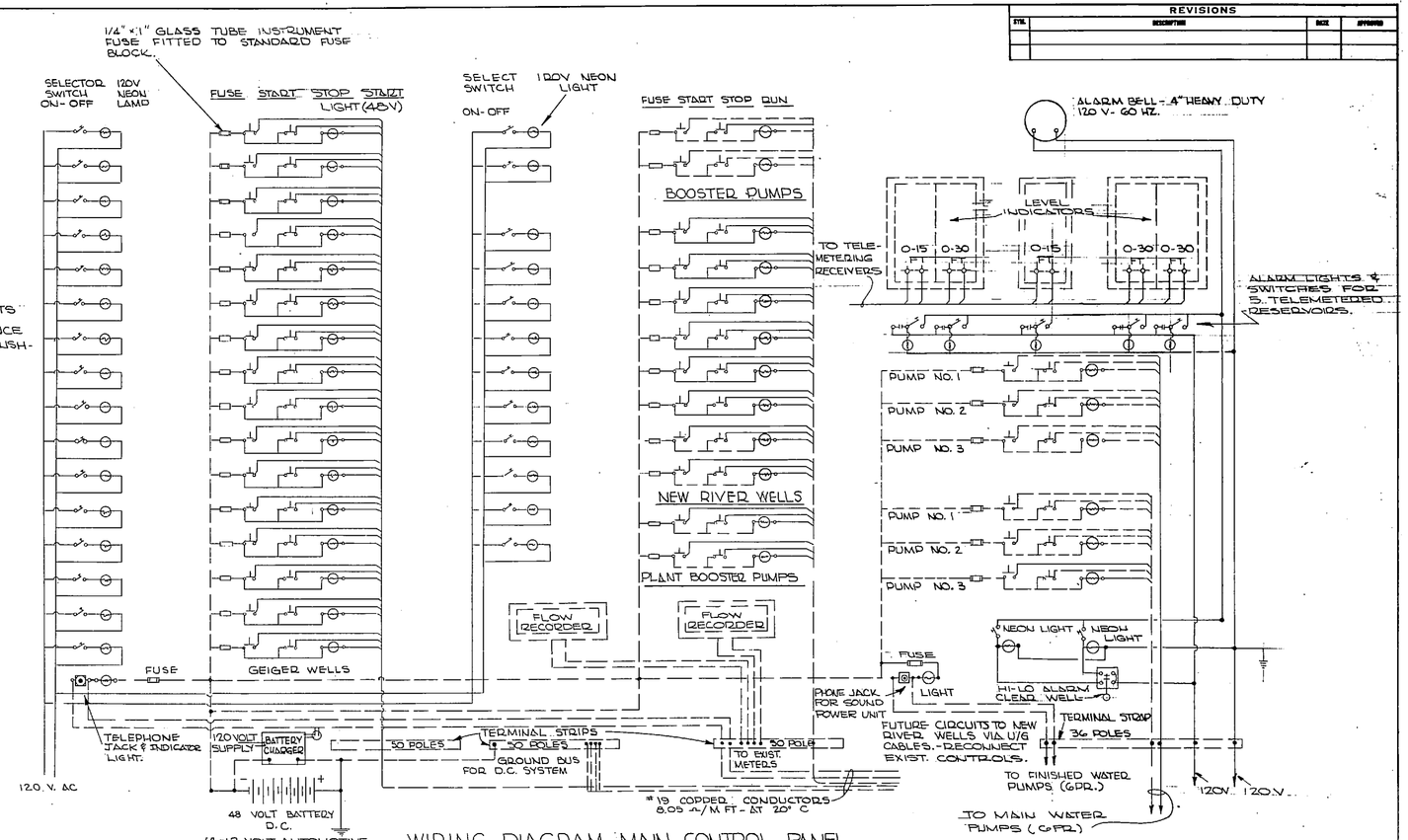
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



20" DEEP CABINETS - HINGED DOOR AT REAR OF EACH SECTION

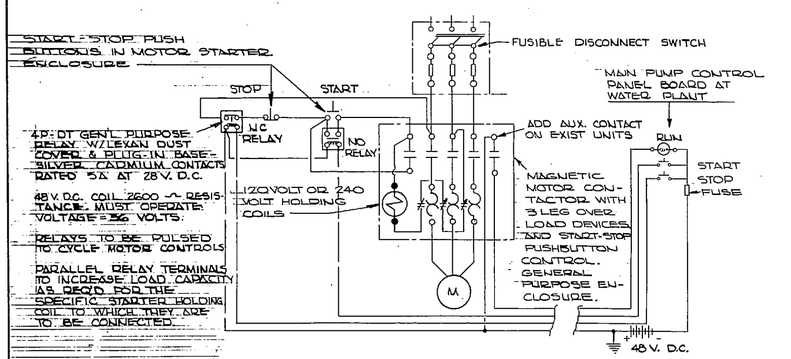
MAIN CONTROL PANEL

NO SCALE



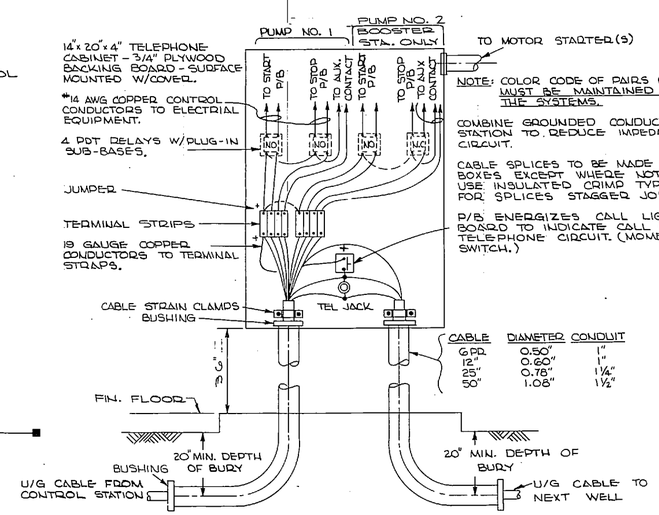
WIRING DIAGRAM - MAIN CONTROL PANEL

SCALE: NONE



CONTROL DETAIL - REMOTE PUMPS OPERATED FROM CONTROL PANEL BOARD

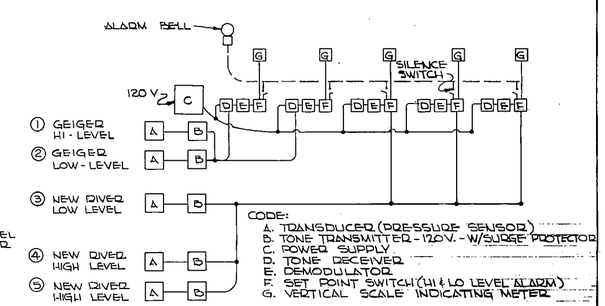
SCALE: NONE



CABLE	DIAMETER	CONDUIT
6 PR.	0.50"	1"
12"	0.60"	1"
25"	0.78"	1¼"
50"	1.08"	1½"

REMOTE-PUMP HOUSE CONTROL PANELS WELLS & BOOSTER STATION

SCALE = 3" = 1'-0"



TELEMETRY SYSTEMS SCHEMATIC

GRAPHIC SCALE

1' 9" 6" 3" 0" 1'

3" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSUNVILLE, NORTH CAROLINA
UTILITY EXPANSION

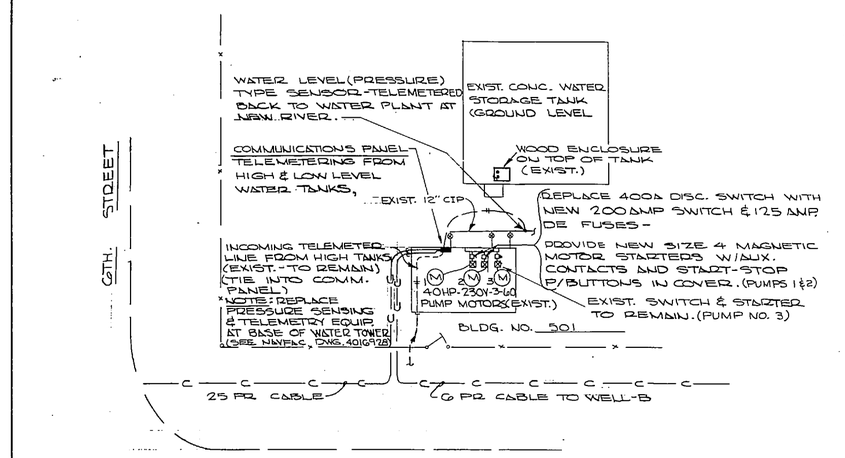
DES. P.E.C. DR. C.L./D.B. CHK. P.E.C.
PROJ. MGR. M.L.E. CH. ENGR. J.J.L.D.
SUBMITTED BY: DATE 9/11/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE
OFFICER IN CHARGE
APPROVED — DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

WATER MAIN	TREATMENT PLANT	CONTROL PANEL
SIZE: F	CODE IDENT. NO.: 80091	NAVFAC DRAWING NO.: 4016925
		CONTR. CONTR. NO.: N62470-73-B-1155
SCALE: AS SHOWN	SPEC. 05-73-1155	SHEET 39 of 83

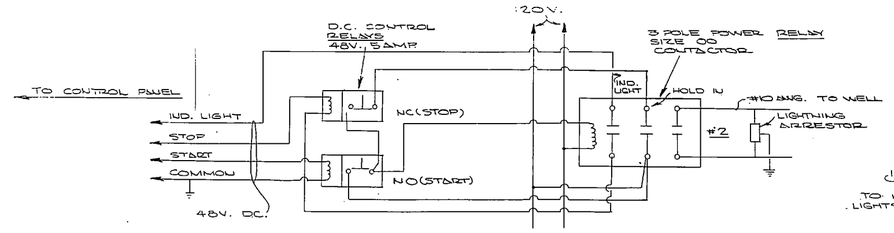
E.F.D. NO. 116925

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



CONTROLS AND DEVISIONS EXIST. CAMP GEIGER WATER PUMPHOUSE

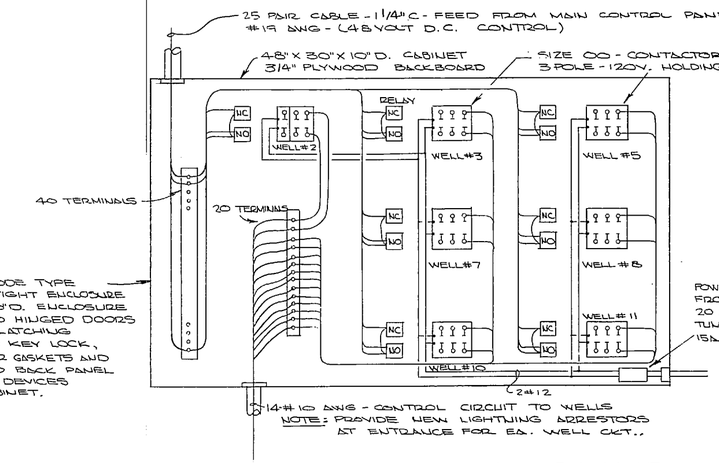
SCALE: 1" = 20'



TYPICAL CONTROL CIRCUIT FOR EXIST. WELLS 2,3,5,7,8,10 & 11

NO SCALE

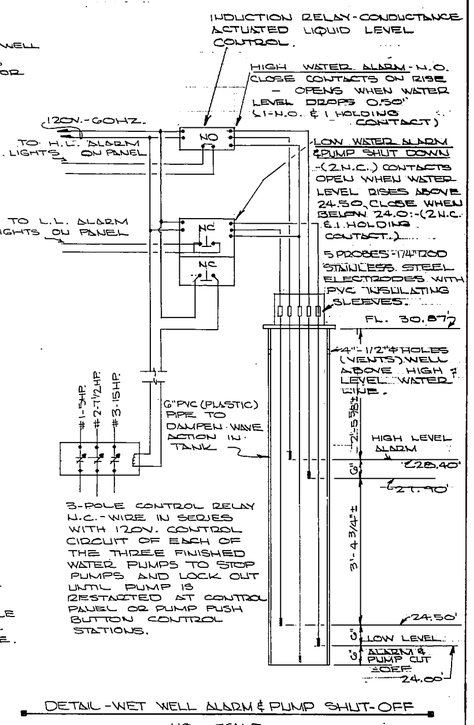
(SEE DETAIL BELOW)



DETAIL - CONTROL PANEL AT NORTHWEST CORNER OF WATER PLANT

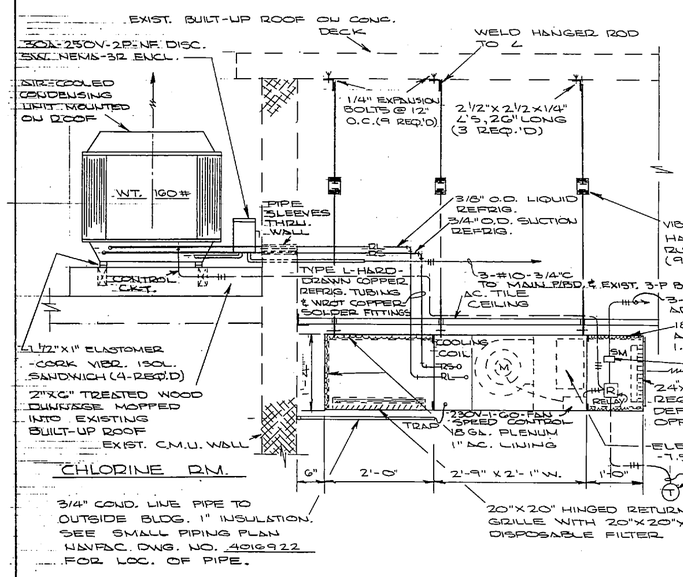
(CONTROLS FOR WELLS - 2, 3-5, 7, 8, 10 & 11)

NO SCALE



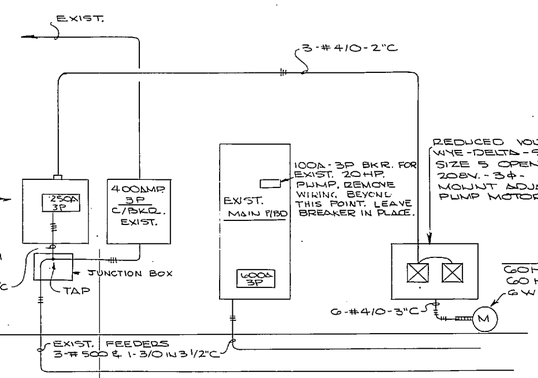
DETAIL - WET WELL ALARM & PUMP SHUT-OFF

NO SCALE



NEW AIR COND. UNIT - WATER PLANT CONTROL RM.

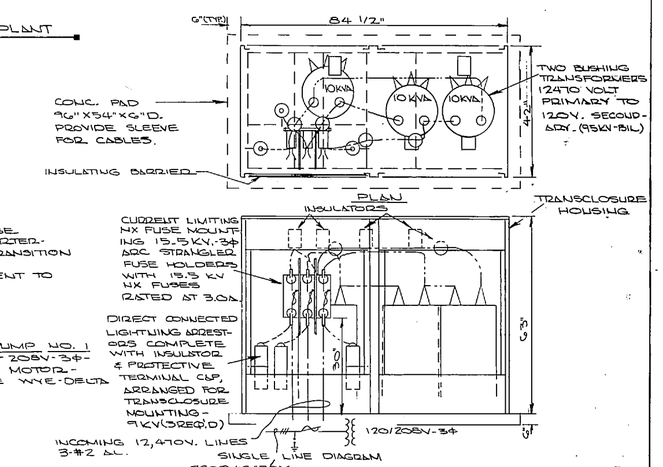
SCALE: 1" = 1'-0"



RISER DIAGRAM - NEW 60 HP. DISTRIBUTION PUMP AT WATER PLANT

NO SCALE

(SEE NAVFAC DWG. 4016923)



DETAIL - PAD-MOUNTED SUBSTATIONS IN TRANSCLOSURES

NO SCALE (WELLS N, O & P)

NOTE:
ALL WORK AND MATERIALS NOT SPECIFICALLY NOTED AS "EXISTING" IS NEW AND SHALL BE PROVIDED BY THE CONTRACTOR.

GRAPHIC SCALE

1" = 20' 25' 0' 25' 50' 75'

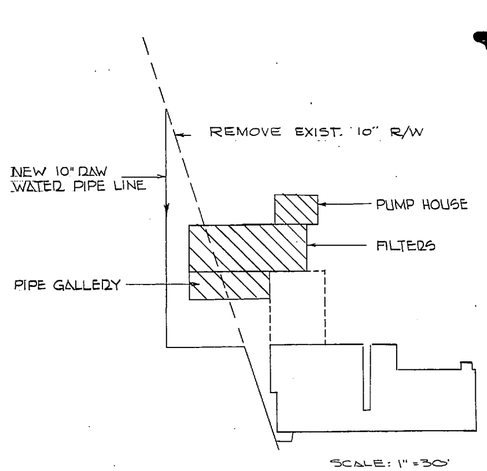
NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION	
	NAVAL STATION NORFOLK, VA.	
DES. B.E.C. DR. C.L. / D.B. CHK. B.E.C.	NEW RIVER MARINE CORPS AIR STATION (HELICOPTER) JACKSONVILLE NORTH CAROLINA	
PROJ. MGR. M.L.S. ENGR. J.H.H.	UTILITY EXPANSION	
SUBMITTED BY M. L. Elwell 9/16/74	WATER TREATMENT PLANT ELECTRICAL & CONTROLS	
FIRM MEMBER PRINCIPAL	SIZE F	CODE IDENT. NO. 80091
EFD RVD		NAVFAC DRAWING NO. 4016926
HD DIR		CONTR. CONTR. NO. N62472-74-B-1155
APPROVED DATE 9/24/74		
OFFICER IN CHARGE	SCALE AS SHOWN	SHEET 40 OF 89
APPROVED DATE 4 NOV 1974 FOR EFD FOR COMMANDER NAVFAC		

NORTH CAROLINA REGISTERED SEAL X 4277 X J. K. TIMMONS

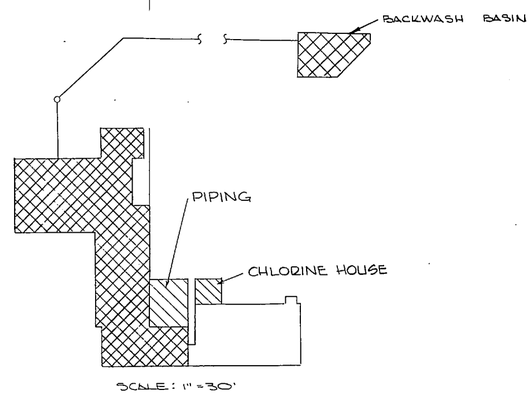
E.F.D. NO. 116926

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



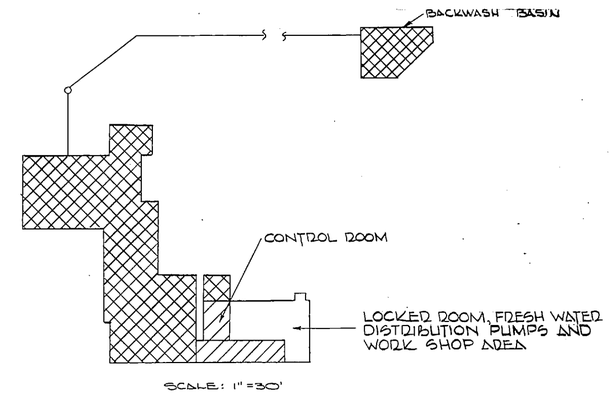
CONSTRUCTION PHASE I

1. CONSTRUCT FILTERS
2. CONSTRUCT PUMP HOUSE
3. DEMOLISH 10" WATER LINE SECTION
4. INSTALL NEW 10" PIPE SECTION
5. RAW WATER WILL BE TREATED WITH EXISTING WATER PLANT EQUIPMENT



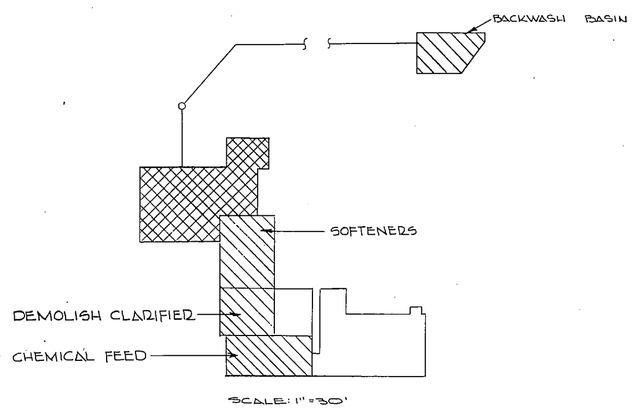
CONSTRUCTION PHASE III

1. INSTALL CHLORINATOR
2. HOOK UP NEW PLANT PIPING
3. RAW WATER WILL BE ONLY FILTERED AND CHLORINATED IN THIS PHASE



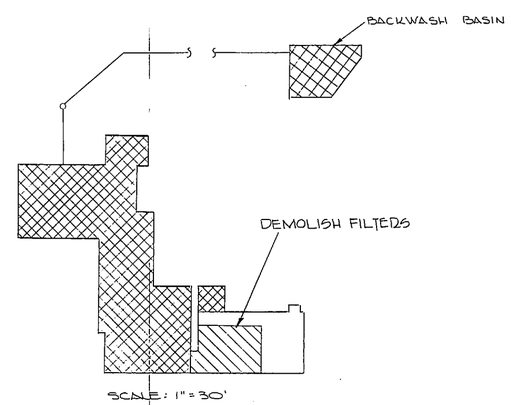
CONSTRUCTION PHASE V

1. PLANT CONTROL ROOM WILL BE COMPLETED
2. CONSTRUCT AND INSTALL LOCKER FACILITIES



CONSTRUCTION PHASE II

1. DEMOLISH CLARIFIER
2. INSTALL SOFTENERS
3. CONSTRUCT SETTLING BASIN AND PIPE LINE
4. CONSTRUCT CHEMICAL FEED EQUIPMENT
5. RAW WATER WILL BYPASS THE CLARIFIER AND BE ONLY FILTERED AND CHLORINATED



CONSTRUCTION PHASE IV

1. DEMOLISH OLD SAND FILTERS
2. RAW WATER WILL BE SOFTENED, FILTERED AND CHLORINATED THROUGH NEW EQUIPMENT

LEGEND

- EXISTING
- UNDER CONST. IN EA. PHASE
- NEW WORK COMPLETED IN PREVIOUS PHASES

GRAPHIC SCALE

25' 0' 25' 50' 75' 100' 125'

1" = 30'

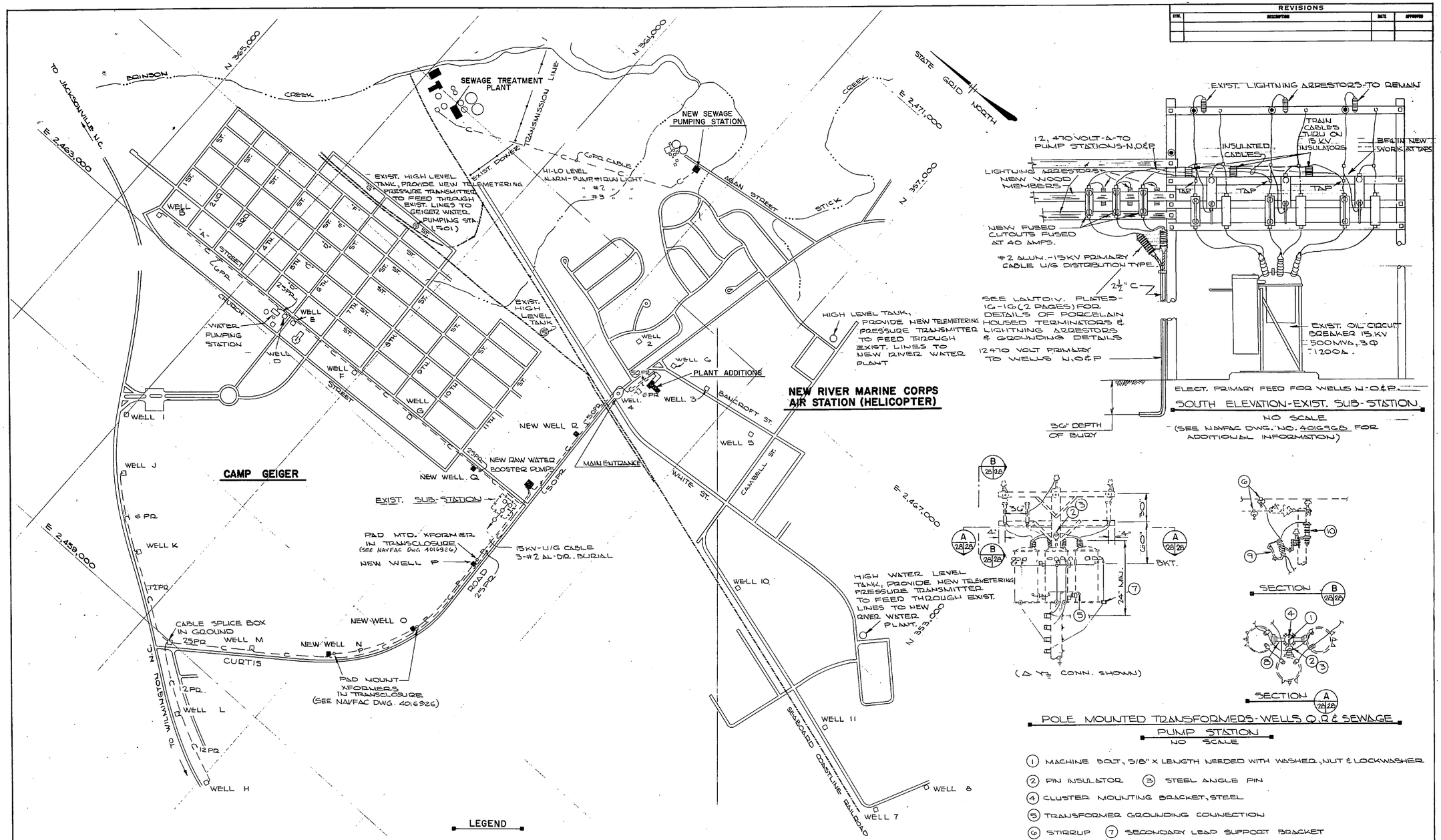
NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION — NORFOLK, VA.
DES. M.L., B.B., R.C.L., / D.G. & CHK. M.L.E.	NEW RIVER MARINE CORPS AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.	UTILITIES EXPANSION
SUBMITTED BY: J.D. Blackwell DATE: 9/11/74	
FIRM MEMBER / PRINCIPAL	
EFD HK / RVD	
ND / DIR	
APPROVED / DATE 7/29/74	WATER TREATMENT PLANT CONSTRUCTION PHASE DIAGRAM
OFFICER IN CHARGE	SIZE: F — CODE IDENT. NO.: 80091 — NAVFAC DRAWING NO.: 4016927
APPROVED / DATE 4 NOV 1976	CONTR. CONTR. NO. N62470-73-B-1155
FOR EFD FOR COMMANDER NAVFAC	SCALE: 2.5 SHOWN — SPEC. 05-73-[illegible] — SHEET 41 of 83

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 ENGINEER J. K. TIMMONS & ASSOCIATES

E.F.D. NO. 116927

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



POLE MOUNTED TRANSFORMERS-WELLS Q, R & SEWAGE PUMP STATION
NO SCALE

1. MACHINE BOLT, 5/8" X LENGTH NEEDED WITH WASHER, NUT & LOCKWASHER
2. PIN INSULATOR
3. STEEL ANGLE PIN
4. CLUSTER MOUNTING BRACKET, STEEL
5. TRANSFORMER GROUNDING CONNECTION
6. STIRRUP
7. SECONDARY LEAD SUPPORT BRACKET
8. ADAPTER PLATE FOR CLUSTER MOUNTING
9. FUSED CUTOUT, AS SPECIFIED
10. LIGHTNING ARRESTER, AS SPECIFIED

LEGEND

ITEM	EXISTING	NEW
UNDERGROUND PIPE LINE		
OVERHEAD PIPE LINE	--- OH ---	— OH —
STRUCTURES		
RAILROAD		
WELLS	□	■
OVERHEAD ELECTRICAL	— E —	— P —
UNDERGROUND ELECTRICAL	- - - - E - - - -	- - - - P - - - -
UNDERGROUND CONTROL AND COMMUNICATIONS	NONE	— — C — —

GRAPHIC SCALE
1" = 500'
500' 0' 500' 1000' 1500' 2000

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.J.L.L.
SUBMITTED BY: J. K. Timmons DATE 7/12/72
FIRM MEMBER PRINCIPAL
EFD RVD
NB CH DIR
APPROVED DATE 7/29/74
OFFICER IN CHARGE
APPROVED DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

SEAL: NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER X 4277 E J. KENNETH TIMMONS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

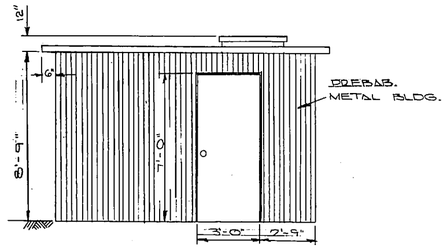
UTILITY EXPANSION

LOCATION PLAN
WELLS & PUMP CONTROLS

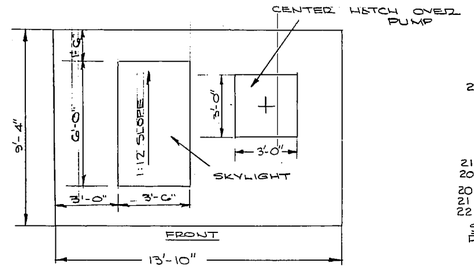
SIZE	CONT. INDEX. NO.	NAVFAC DRAWING NO.
F	80091	4016928
	CONSTR. CONTR. NO.	N62470-73-B-1155
SCALE 1" = 500'	SPEC. 05-73-1155	SHEET 42 of 83

E.F.D. NO. 116928

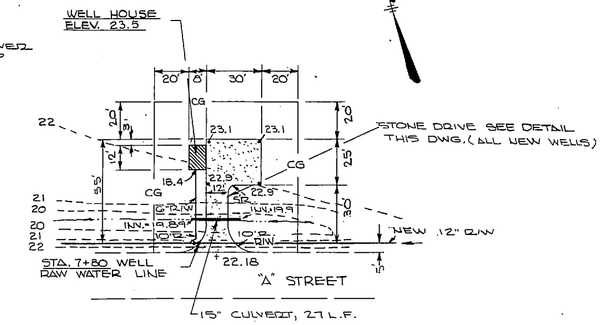
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



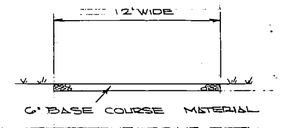
FRONT ELEVATION
3/8" = 1'-0"



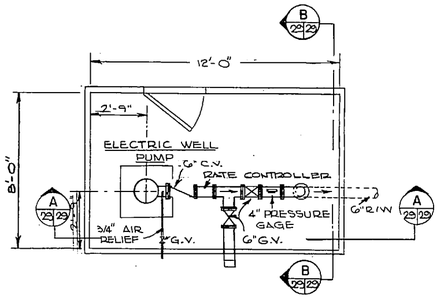
ROOF PLAN
3/8" = 1'-0"



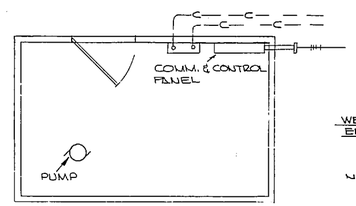
WELL SITE "Q"
SCALE: 1" = 30'
NOTE: FOR LOC. OF WELL "Q" SEE NAVFAC DWG. NO. 4016898.



TYP. STONE DRIVE DETAIL
SCALE: 1" = 20'

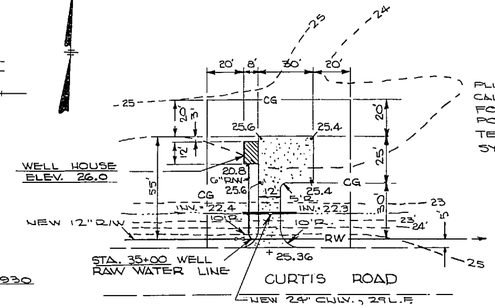


PIPING PLAN
3/8" = 1'-0"

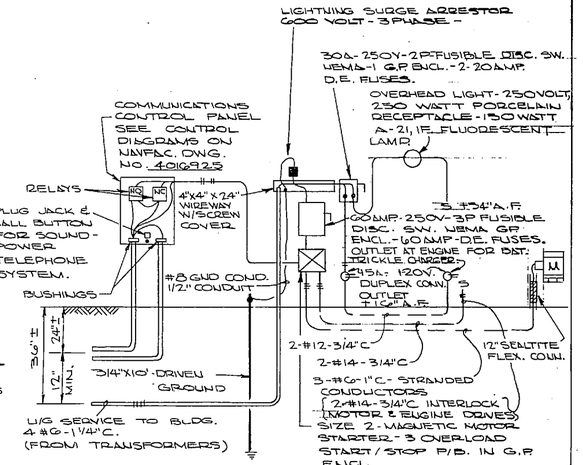


NOTE: SEE ELECT. PLAN DETAILS ON NAVFAC DWG. NO. 4016930 FOR ELECT. LAYOUT.

ELECTRICAL PLAN
3/8" = 1'-0"



WELL SITE "P"
SCALE: 1" = 30'
NOTE: FOR LOC. OF WELL "P" SEE NAVFAC DWG. NO. 4016897.



POWER RISER DIAGRAM - WELLS-N.O.,P.Q&R.
NO SCALE

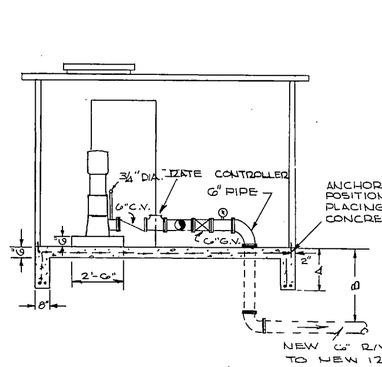
EXISTING WELLS
ADD REMOTE CONTROL PANEL WITH SOUND-POWER TELEPHONE JACK, P/B FOR CALL LIGHT, TWO RELAYS, START/STOP PUSHBUTTON STATION, TWO AUX. CONTACTS ON MOTOR STARTER AND RECONNECT TO PERMIT START/STOP OPERATION AND SIGNAL LIGHT FROM REMOTE CONTROL PANEL IN WATER PLANT AS WELL AS START/STOP FROM P/B STATION AT STARTER. WELLS-J,K,L,H,M,B,D,E,F,G & #4. WELLS #2,3,5,7,8,10 AND 11 TO REMAIN 2-WIRE CONTROL AT THIS TIME. SEE NAVFAC DWG. NO. 4016926

LEGEND

NEW CULV. — EXIST. CULVERT

—CG— LIMITS OF AREA TO BE CLEARED, TOPSOILED AND SEEDED.

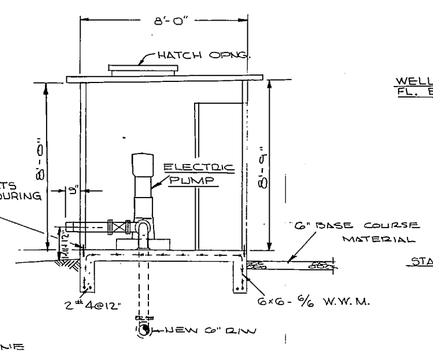
NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ADDITIONAL LEGEND AND ABBREVIATIONS



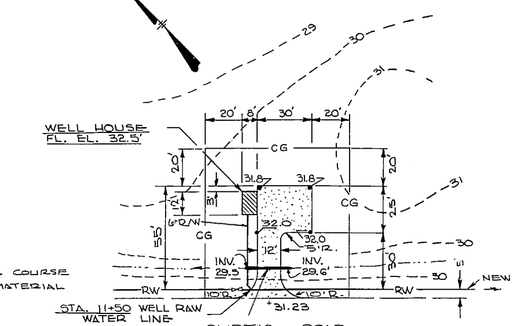
NOTE: SEE SECTION A. FOR DIMENSIONS

WELL	A	B
R	2'-0"	5'-8"
Q	2'-0"	4'-8"
D	2'-0"	4'-9"
O	2'-0"	3'-6"
N	2'-0"	3'-6"

SECTION A
3/8" = 1'-0"



SECTION B
3/8" = 1'-0"



NOTE: FOR LOC. OF WELL "N" SEE NAVFAC DWG. NO. 4016896.

WELL SITE "N"
SCALE: 1" = 30'

GRAPHIC SCALE
3/8" = 1'-0": 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10' 11' 12' 13' 14'
1" = 30': 25' 0' 25' 50' 75' 100' 125'
1" = 4': 5' 0' 5' 10' 15'

NOTE: FOR ABBREV. AND LEGEND SEE NAVFAC DWG. NO. 4016889.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

WELLS
SITE & ELECTRICAL

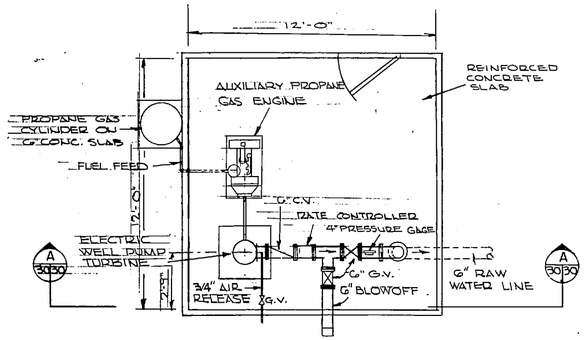
DES. M.L.E. DR. C.L./O.B. CHK. M.L.E.
PROJ. MGR. M.L.B. CH. ENGR. J.H.H.
SUBMITTED BY: TN-2 Bond DATE 9/12/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE 9/24/74
OFFICER IN CHARGE
APPROVED — DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016929
CONTR. CONTR. NO.	N62470-73-B-1155	
SCALE AS SHOWN	SPEC. 07-73-1155	SHEET 43 of 83

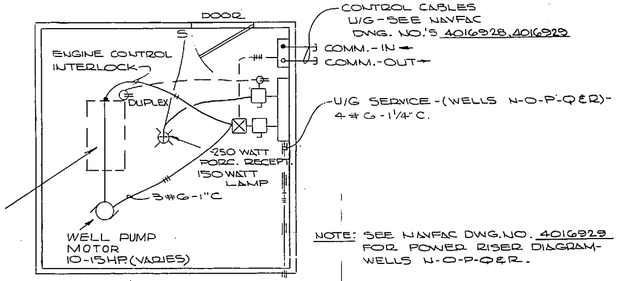
E.F.D. NO. 116929

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



DIPING PLAN

SCALE: 3/8" = 1'-0"

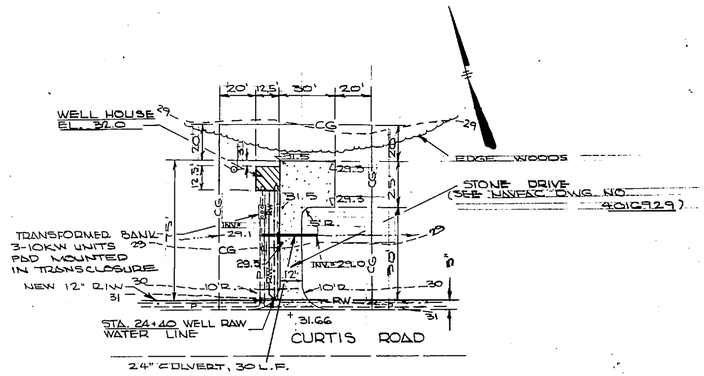


NOTE: SEE NAVFAC DWG. NO. 4016929 FOR POWER RISER DIAGRAM - WELLS N-O-P-Q&R.

INTERLOCK PUMP W/GAS ENGINE. USE DOUBLE THROW SWITCH IN CONTROL CKTS. TO PREVENT SIMULTANEOUS OPERATION OF BOTH UNITS.

ELECTRICAL PLAN

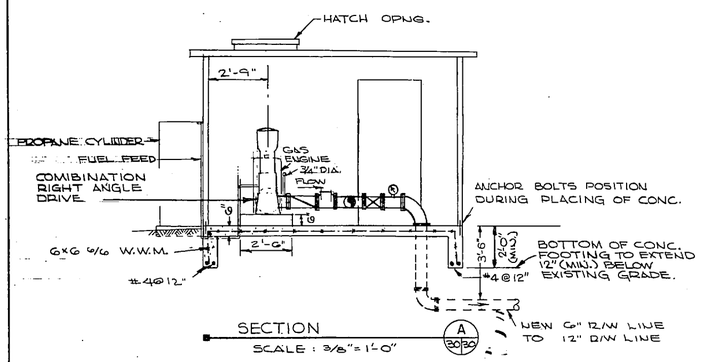
NO SCALE



WELL SITE "O"

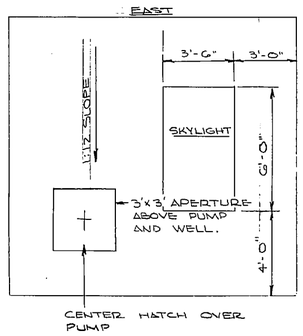
SCALE: 1" = 30'

NOTE: FOR LOC. OF WELL "O" SEE NAVFAC DWG. NO. 4016896.



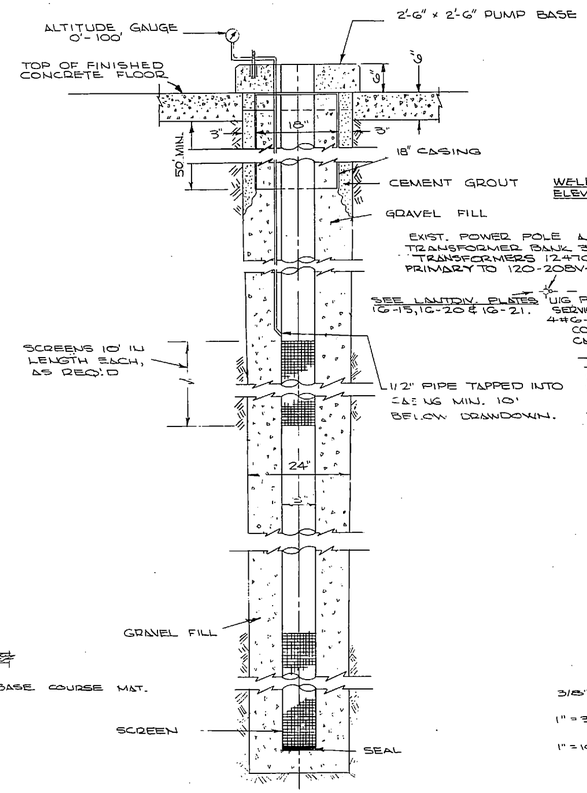
SECTION

SCALE: 3/8" = 1'-0"



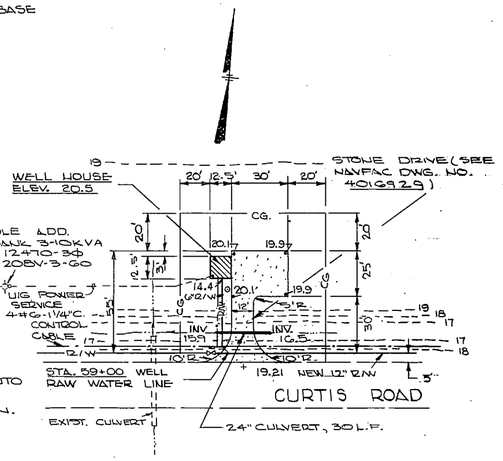
ROOF PLAN

3/8" = 1'-0"



GRAVEL PACKED WELL

SCALE: 1" = 1'-0"



WELL SITE "R"

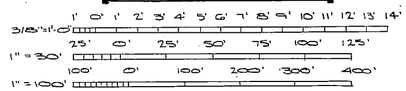
SCALE: 1" = 30'

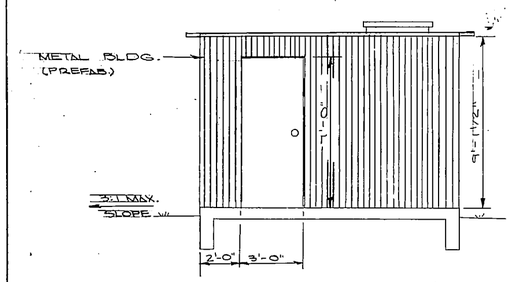
NOTE: FOR LOC. OF WELL "R" SEE NAVFAC DWG. NO. 4016897.

LEGEND

—CG— LIMITS OF AREA TO BE CLEARED, TOPSOILED AND SEEDED.

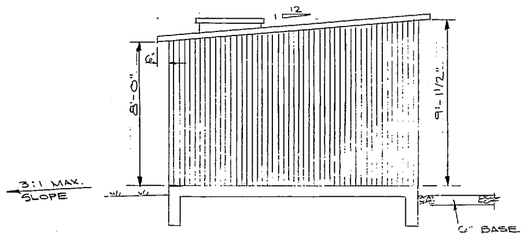
GRAPHIC SCALE





EAST ELEVATION

3/8" = 1'-0"



SOUTH ELEVATION

3/8" = 1'-0"

NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ABBREV. & LEGEND.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

DES. M.L.E./P.C.L./D.B.&H.K.M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: J. K. Timmons DATE 9/11/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR. Davis
APPROVED DATE
OFFICER-IN CHARGE
APPROVED 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

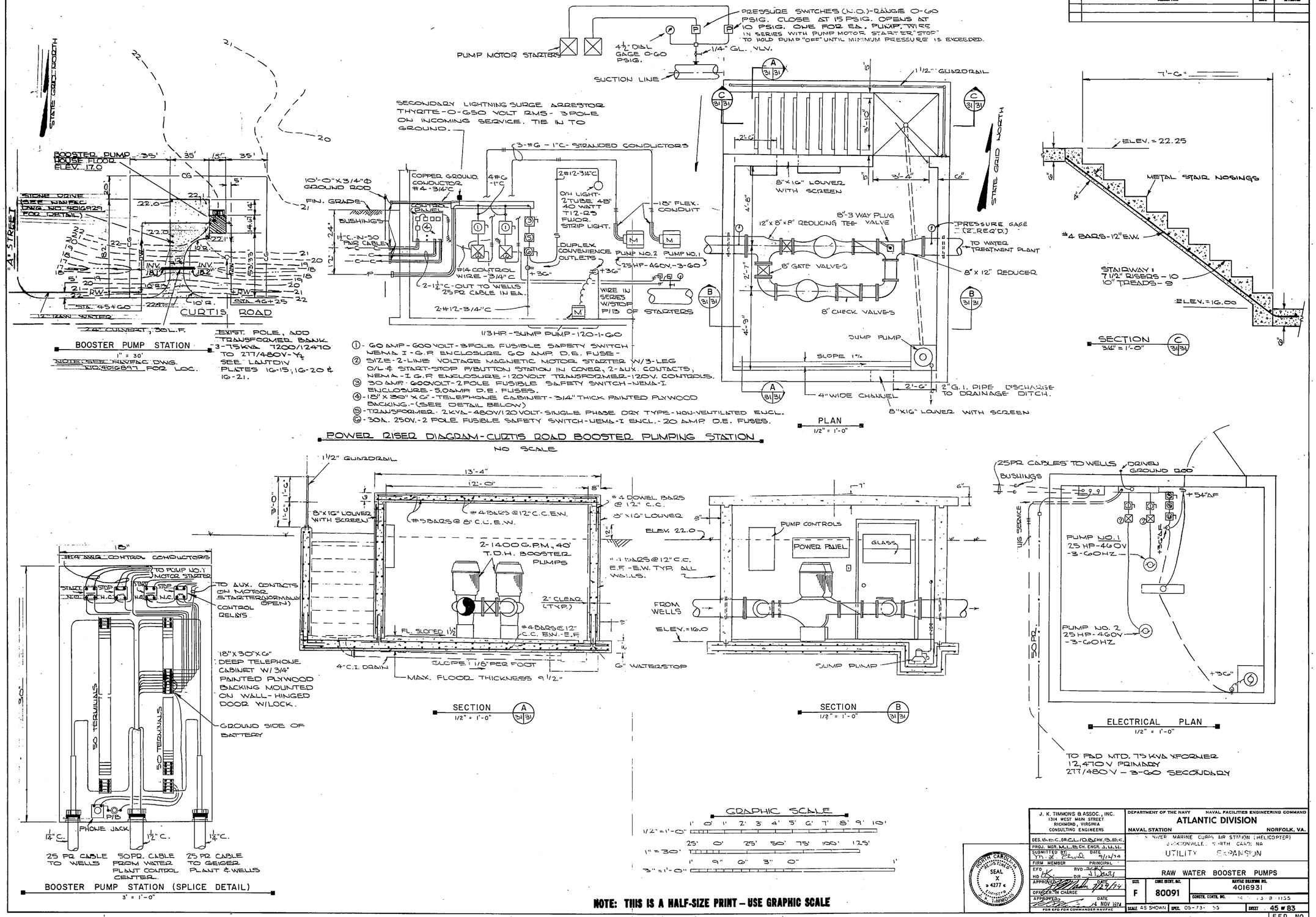
NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

WELLS
SITE & ELECTRICAL

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016930
	CONSTR. CONTR. NO.	73-8-1155
SCALE AS SHOWN	SPEC. 05-73-15	SHEET 44 of 83

E.F.D. NO. 116930

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

UTILITY EXPANSION

RAW WATER BOOSTER PUMPS

DES. B.E.C. DR. C.L./D.B. CHK. B.E.C.
PROJ. MGR. M.L.B. CH. ENGR. J.L.H.
SUBMITTED BY: [illegible] DATE 9/12/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR.
APPROVED — DATE 9/27/74
OFFICER IN CHARGE
APPROVED — DATE 24 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 X J. K. TIMMONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016931

CONSTR. CONTR. NO. [illegible] 73 B-1155

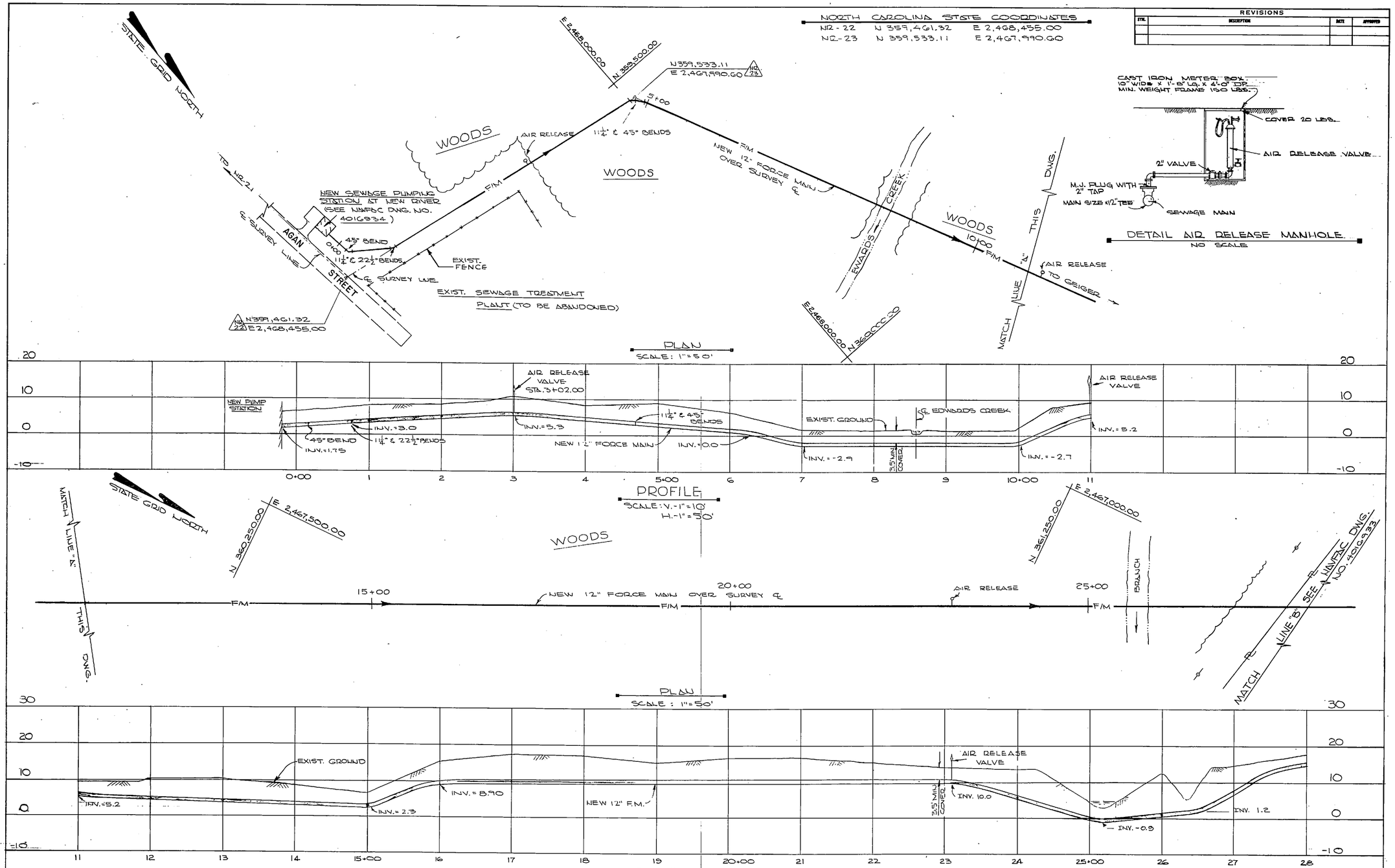
SCALE AS SHOWN | SPEC. DS-73-55 | SHEET 45 of 83

E.F.D. NO. 116931

NORTH CAROLINA STATE COORDINATES

NR-22	N 359,461.32	E 2,468,455.00
NR-23	N 359,533.11	E 2,467,990.00

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: SEE NAVFAC DWG.'S NO. 4016869 AND NO. 4016934 FOR ABBREVIATIONS AND LEGEND.

GRAPHIC SCALE

1" = 50' 50' 0' 50' 100' 150' 200'

1" = 10' 10' 0' 10 20 30 40

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL X 4277 X

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L. / O.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: J. K. Ecoff DATE: 9/13/74
FIRM MEMBER PRINCIPAL
EFD: RVD.
HD: DR: J. Davis
APPROVED: DATE: 9/24/74
OFFICER IN CHARGE
APPROVED: DATE: 21 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

NEW RIVER TO GEIGER FORCE MAIN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016932

CONSTR. CONTR. NO. N62... 73 B 1155

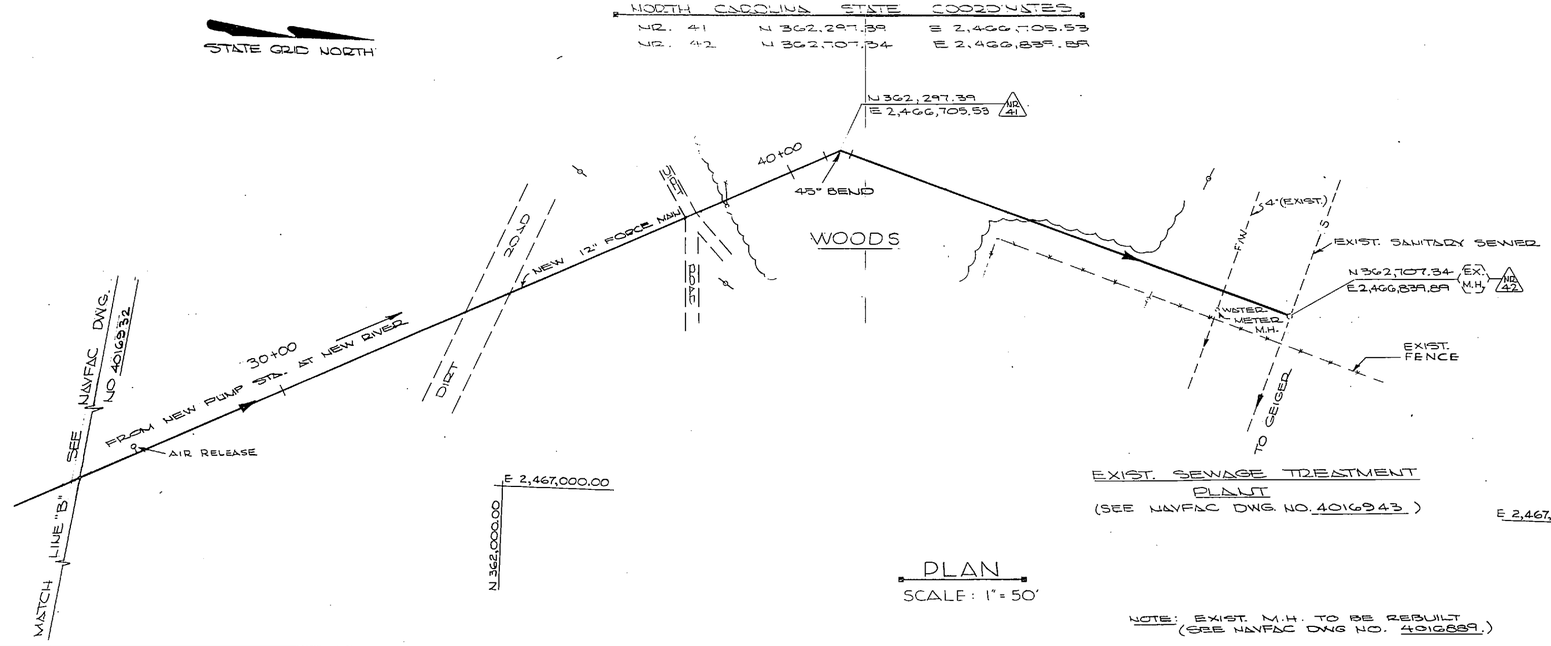
SCALE AS SHOWN SPEC. 0... SHEET 46 OF 83

E.F.D. NO. 116932

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

NORTH CAROLINA STATE COORDINATES

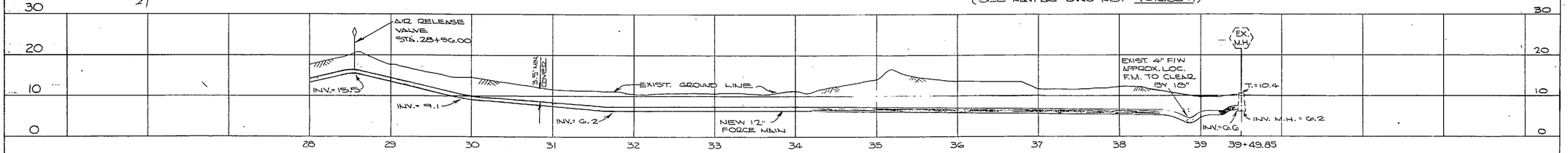
NO. 41	N 362,297.39	E 2,466,705.53
NO. 42	N 362,707.34	E 2,466,839.89



PLAN

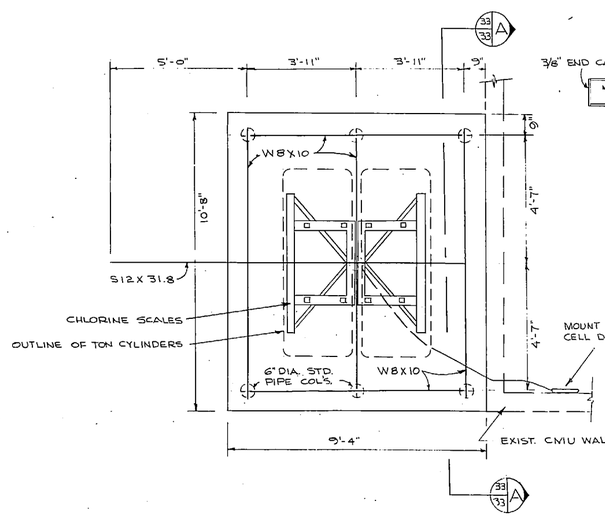
SCALE: 1" = 50'

NOTE: EXIST. M.H. TO BE REBUILT (SEE NAVFAC DWG NO. 4016889.)



PROFILE

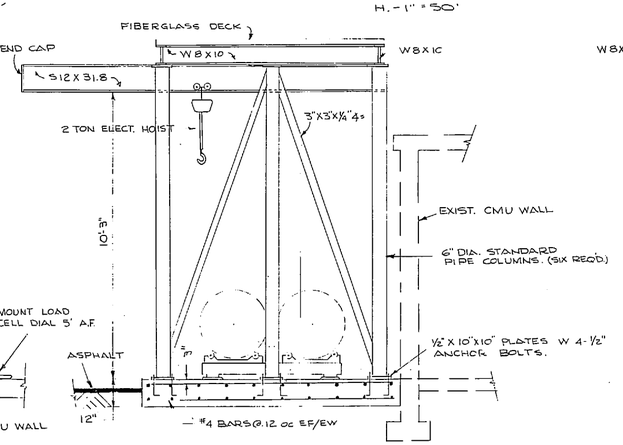
SCALE: V. - 1" = 10'
H. - 1" = 50'



PLAN - CHLORINE SCALES

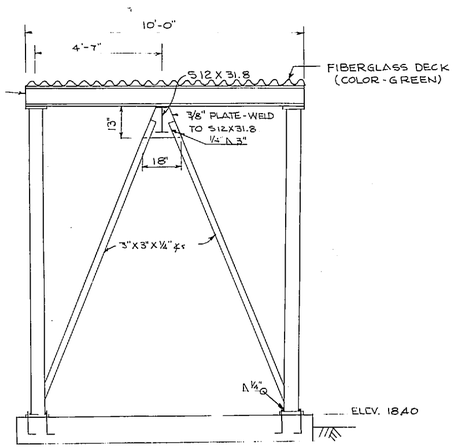
SCALE: 1/2" = 1'-0"

(SEE NAVFAC DWG. NO'S. 4016901, 4016922 & 4016923)



SIDE ELEVATION

SCALE: 1/2" = 1'-0"



SECTION

SCALE: 1/2" = 1'-0"

1/2" = 1'-0" : 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9'

1" = 10' : 10' 0' 10' 20' 30' 40'

1" = 50' : 50' 0' 50' 100' 150' 200'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA SEAL X 4277 LICENSED PROFESSIONAL ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION — NORFOLK, VA.
DES. M.L.E.D.R.C.L.I.D.B.C.H.K.M.L.S.	NEW RIVER MARINE CORPS AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.	UTILITY EXPANSION
SUBMITTED BY: Y.Y.K. DATE: 9/12/74	NEW RIVER TO GEIGER FORCE MAIN
FIRM MEMBER — PRINCIPAL	
EFD RVD — HD — DIR	
APPROVED: DATE 7/29/74	
OFFICER IN CHARGE	
APPROVED: DATE 4 NOV 1974	
FOR EFD FOR COMMANDER NAVFAC	

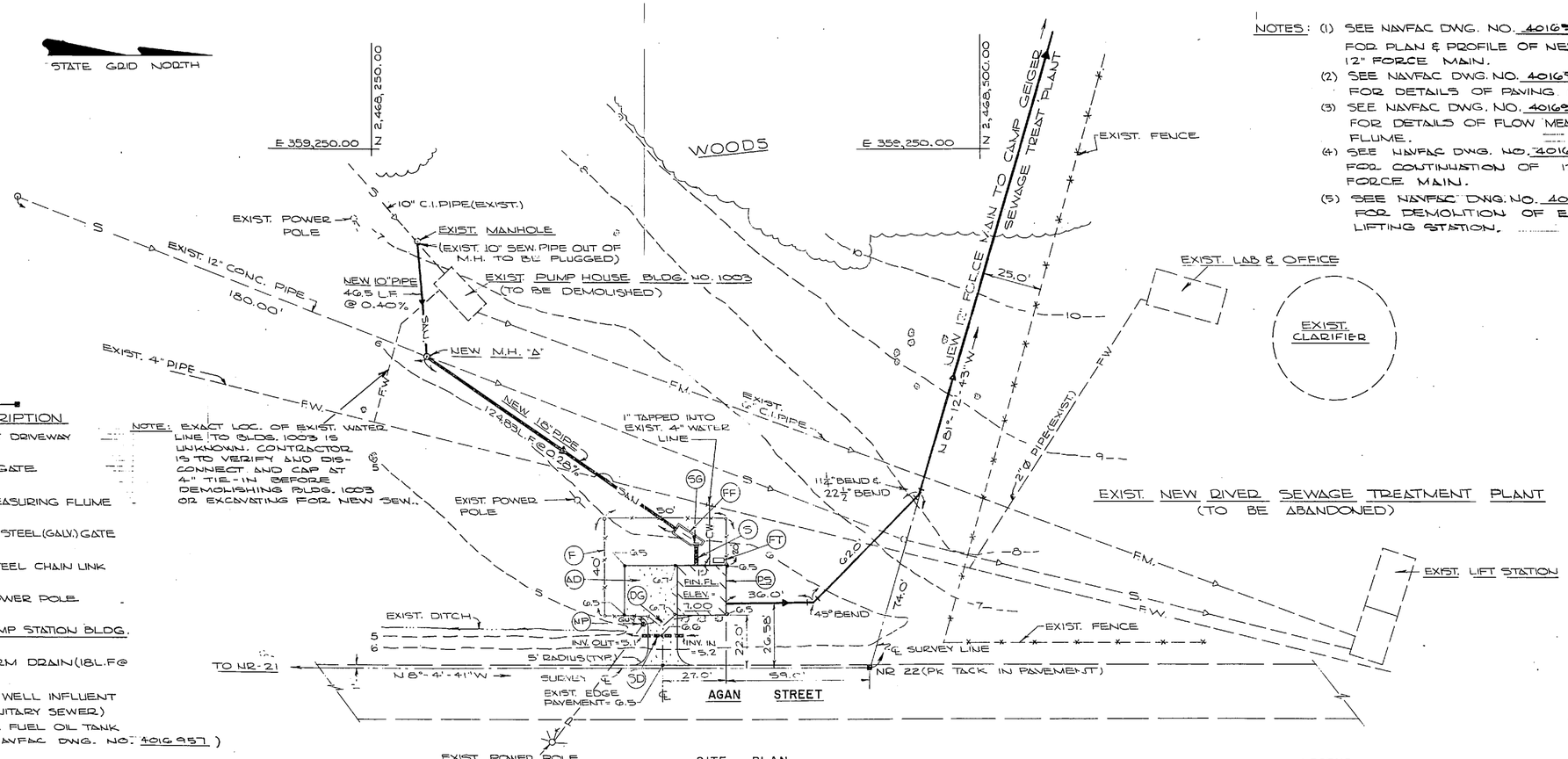
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016933
		CONSTR. CONTR. NO.
SCALE AS SHOWN	SPEC.	SHEET 47 of 83

E.F.D. NO. 116933

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

NORTH CAROLINA STATE COORDINATES
NR.-22 N.=359,461.32 E.=2,468,455.00

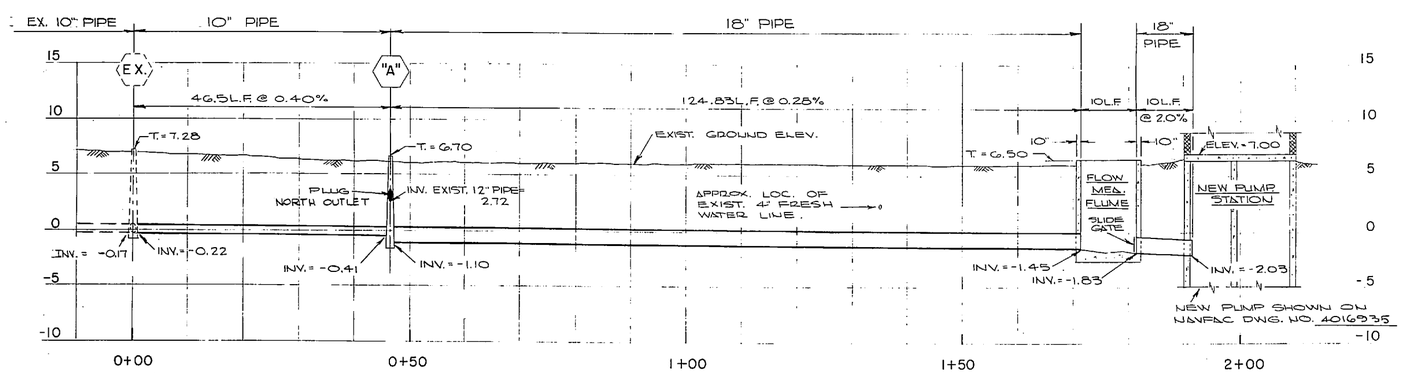
NOTES: (1) SEE NAVFAC DWG. NO. 4016932 FOR PLAN & PROFILE OF NEW 12" FORCE MAIN.
(2) SEE NAVFAC DWG. NO. 4016938 FOR DETAILS OF PAVING ITEMS.
(3) SEE NAVFAC DWG. NO. 4016941 FOR DETAILS OF FLOW MEASURING FLUME.
(4) SEE NAVFAC DWG. NO. 4016933 FOR CONTINUATION OF 12" FORCE MAIN.
(5) SEE NAVFAC DWG. NO. 4016895 FOR DEMOLITION OF EXIST. LIFTING STATION.



SITE PLAN
SCALE: 1" = 20'

ITEM DESIGNATION

SYMBOL	DESCRIPTION
AD	ASPHALT DRIVEWAY
SG	SLIDE GATE
FF	FLOW MEASURING FLUME
DG	DOUBLE STEEL (GALV.) GATE
F	GALV. STEEL CHAIN LINK FENCE
NP	NEW POWER POLE
PS	NEW PUMP STATION BLDG.
SD	12" STORM DRAIN (18 L.F. @ 0.56%)
S	18" WET WELL INFLUENT PIPE (SANITARY SEWER)
FT	550 GAL. FUEL OIL TANK (SEE NAVFAC DWG. NO. 4016957)



PROFILE - NEW INFLUENT SANITARY SEWER
SCALE: VER. - 1" = 5'
HOR. - 1" = 10'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

GRAPHIC SCALE
1" = 10' 10' 5' 0' 10' 20' 30' 40'
1" = 20' 25' 0' 25' 50' 75'
1" = 50' 50' 0' 50' 100' 150' 200'

LEGEND

ITEM	EXISTING	NEW
FRESH WATER LINE	—FW—	—CW—
SANITARY SEWER	—S—	—S.W.—
CHAIN LINK FENCE	—x—	—x—
FORCE MAIN	—FM—	—F.M.—
SURVEY LINE	NONE	— - — - —
CULVERT	= = =	▬ ▬ ▬
STRUCTURES AND EDGE / PAVEMENT	— — —	— — —
CONTOUR LINES	—8—	NONE
SPOT ELEVATIONS	NONE	6.0
OVERHEAD POWER LINES	—o—	—P—

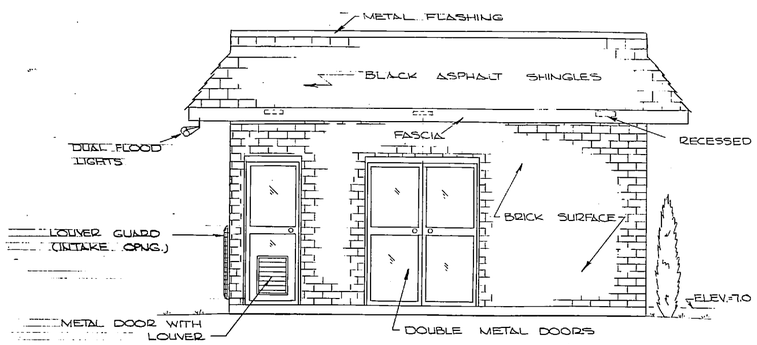
PLANTINGS:
NO. REQUIRED - 3 EACH ; TYPE - JAPANESE HOLLY (ILEX CRENATA)
SPACING - 8' 0" cc ; 2' HEIGHT (MINIMUM).

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VA.
DES. M.L.E. DR. C.L./D.B. CHK. M.L.E. PROJ. MGR. M.L.E. CH. ENGR. J.H.H. SUBMITTED BY: DATE 9/12/74 FIRM MEMBER PRINCIPAL EFD RVD. HD DIR. APPROVED DATE DESIGNER IN CHARGE APPROVED DATE 4 NOV 1974 FOR EFD FOR COMMANDER NAVFAC	NEW RIVER MARINE AIR STATION (HELICOPTER) CAMP LEJEUNE, NORTH CAROLINA UTILITY EXPANSION NEW RIVER PUMP STATION SITE PLAN
	SIZE F; CODE IDENT. NO. 80091; NAVFAC DRAWING NO. 4016934; CONSTR. CONTR. NO.; SCALE; SPEC.; SHEET 48 of 83

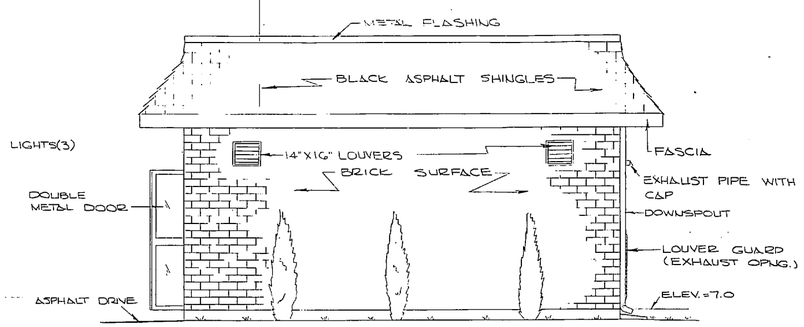
E.F.D. NO. 116934

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



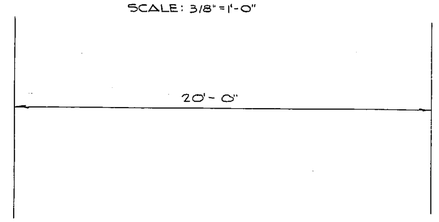
SOUTH ELEVATION

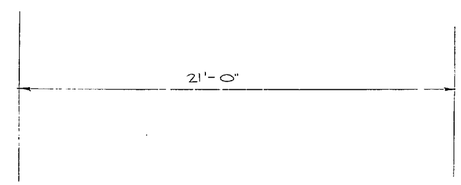
SCALE: 3/8" = 1'-0"

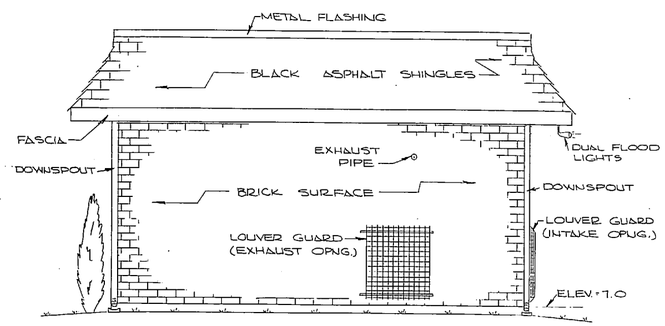


EAST ELEVATION

SCALE: 3/8" = 1'-0"

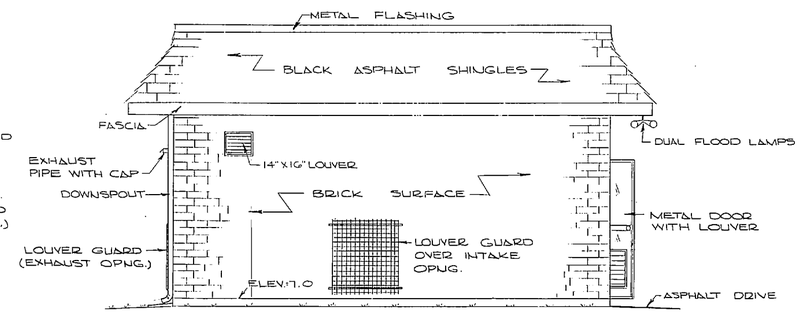






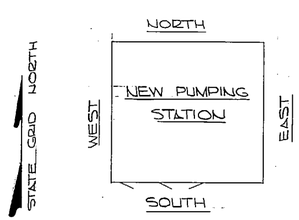
NORTH ELEVATION

SCALE: 3/8" = 1'-0"



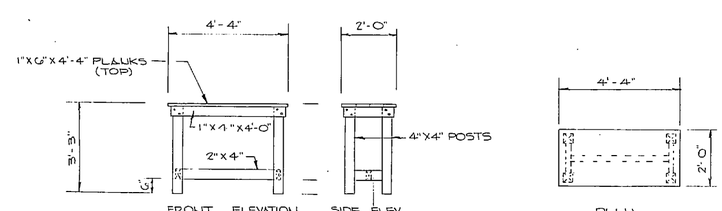
WEST ELEVATION

SCALE: 3/8" = 1'-0"



PLAN

NO SCALE



WORK TABLE DETAILS

SCALE: 1/2" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

GRAPHIC SCALE

3/8" = 1'-0" 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10' 11' 12' 13' 14'

1/2" = 1'-0" 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

NORTH CAROLINA REGISTERED ARCHITECT SEAL X 4277 J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

DES. M.L.E. DR. C.L./O.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.W.H.
SUBMITTED BY: DATE 9/13/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE 7/29/74
OFFICER IN CHARGE
APPROVED — DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

NEW RIVER PUMP STATION
ELEVATIONS

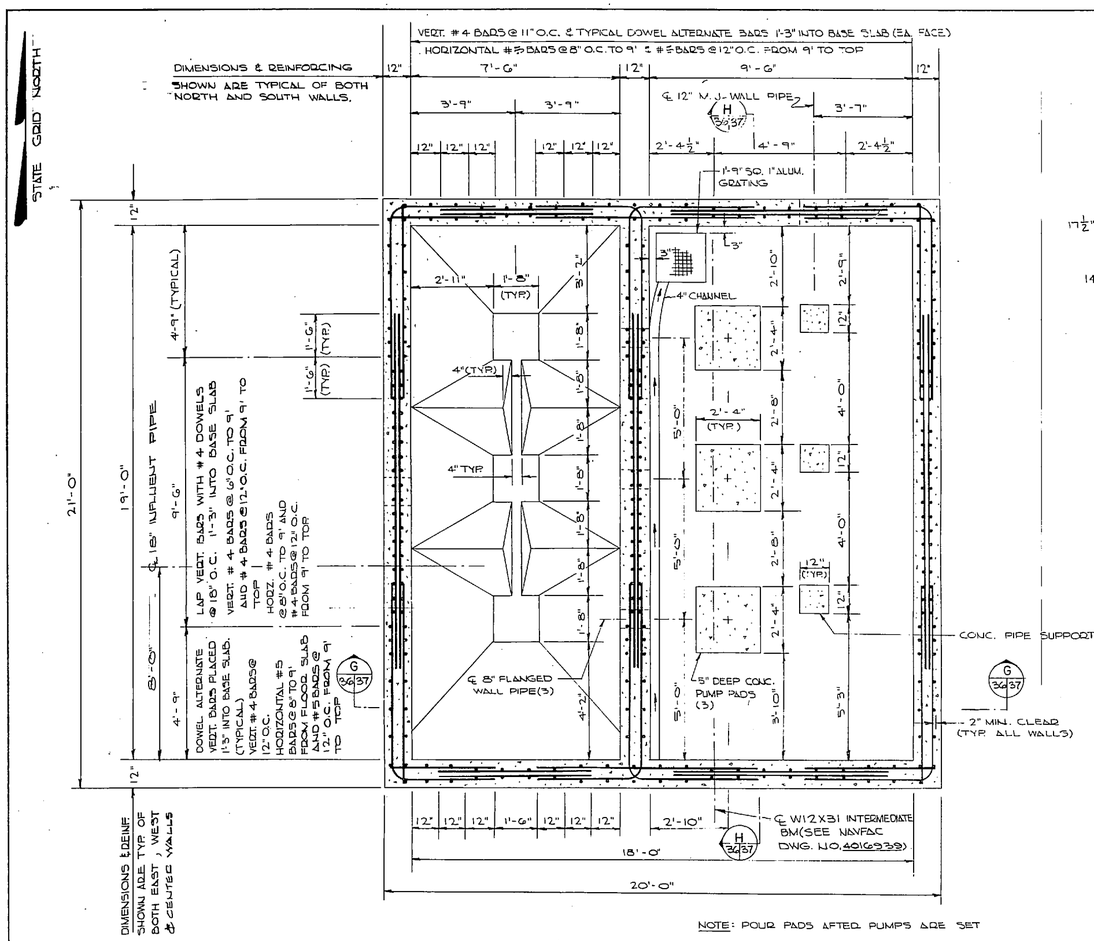
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016935

CONTR. CONTR. NO. [illegible]

SCALE AS SHOWN — SPEC. [illegible] — SHEET 49 of 83

E.F.D. NO. 116935

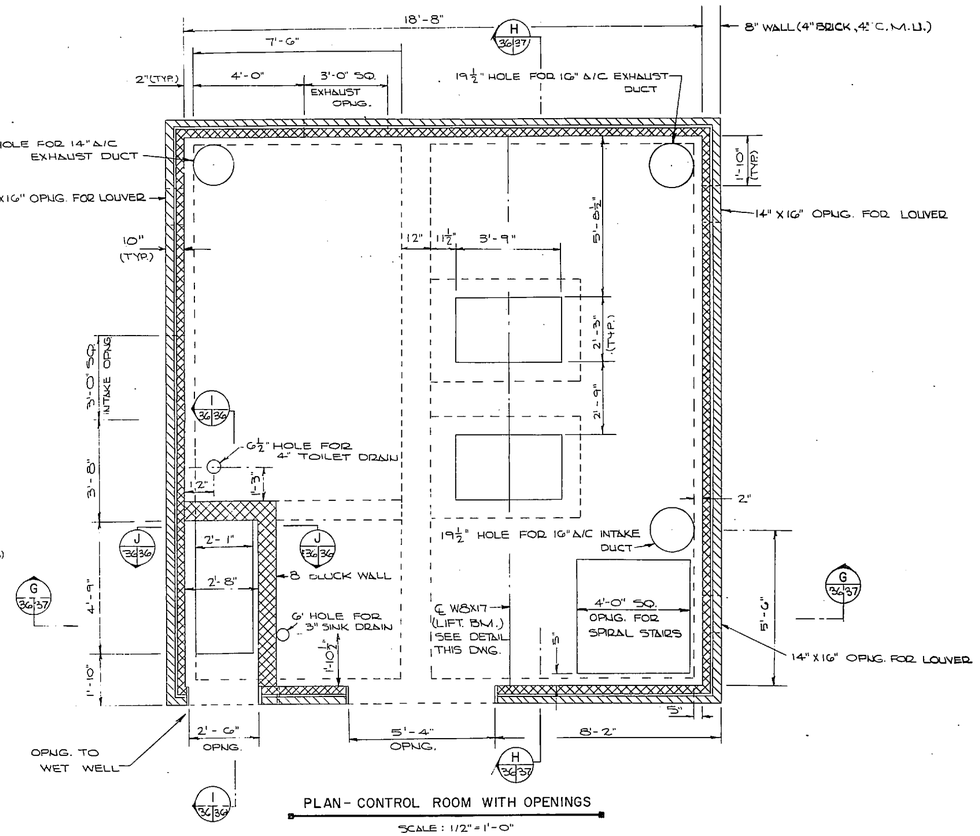
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: POUR PADS AFTER PUMPS ARE SET

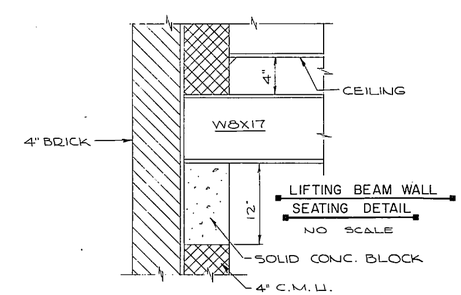
PLAN - WET & DRY WELLS
REINF. STEEL & LAYOUT DIMENS.

SCALE: 1/2" = 1'-0"



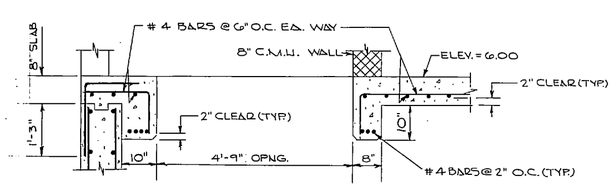
PLAN - CONTROL ROOM WITH OPENINGS

SCALE: 1/2" = 1'-0"



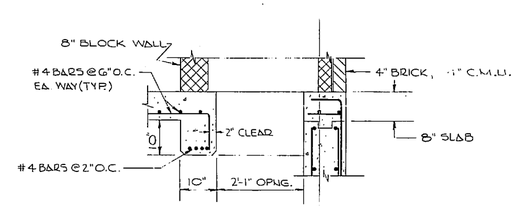
LIFTING BEAM WALL SEATING DETAIL

NO SCALE



SECTION

SCALE: 3/4" = 1'-0"



SECTION

SCALE: 3/4" = 1'-0"

GRAPHIC SCALE

SCALE: 1/2" = 1'-0"

SCALE: 3/4" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

NEW RIVER PUMP STATION
FLOOR PLAN

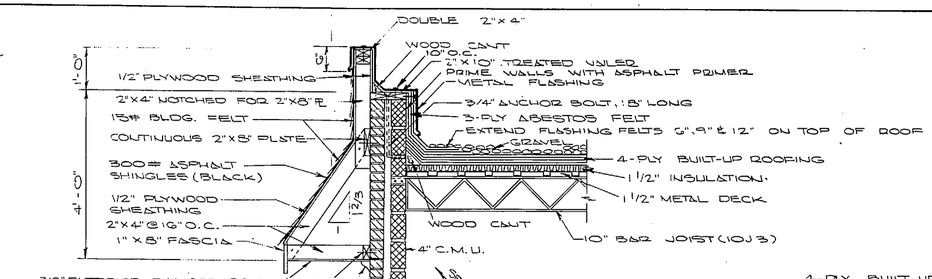
DES. M.L.E. DR. C.L. / D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.L.L.
SUBMITTED BY: DATE 7/12/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE 7/24/74
OFFICER IN CHARGE
APPROVED — DATE NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL X 4277 ENGINEER J. K. TIMMONS

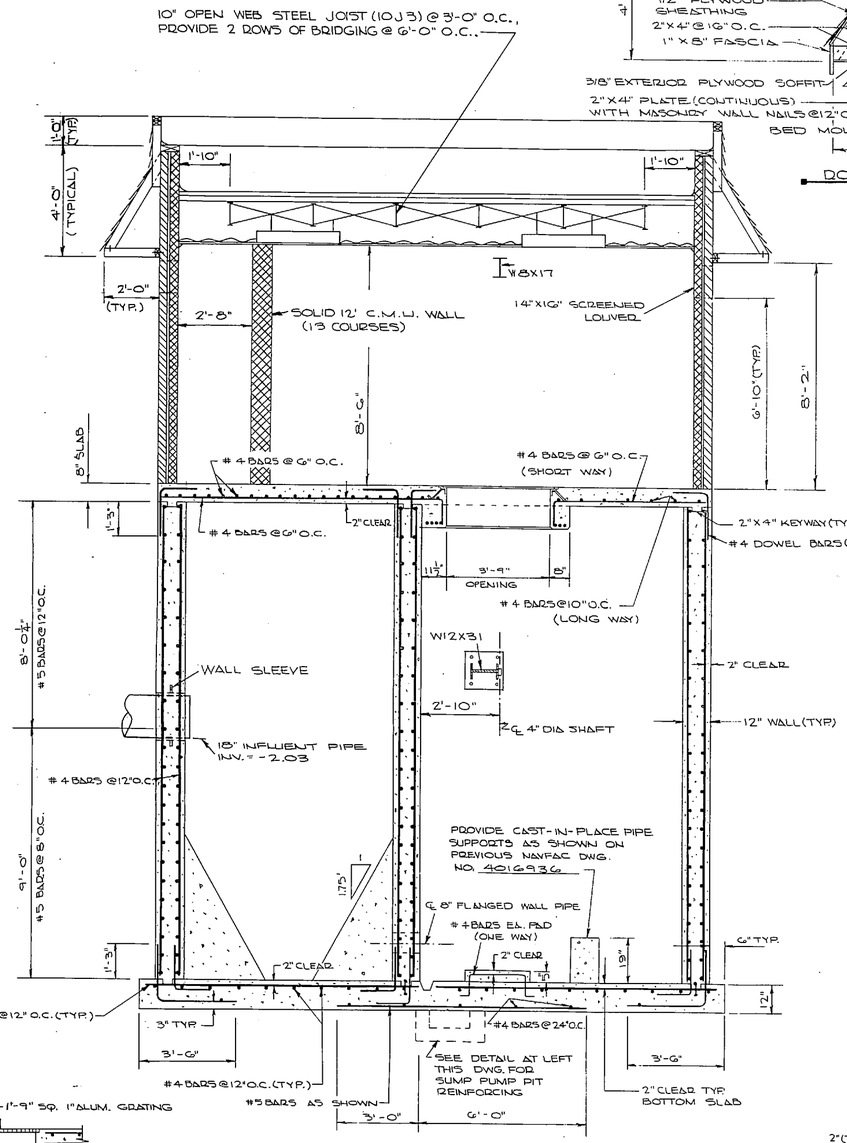
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016936
		CONSTR. CONTR. NO. [illegible] 73 B-1155
SCALE AS SHOWN	SPEC. 05 73-1155	SHEET 50 of 83

E.F.D. NO. 116936

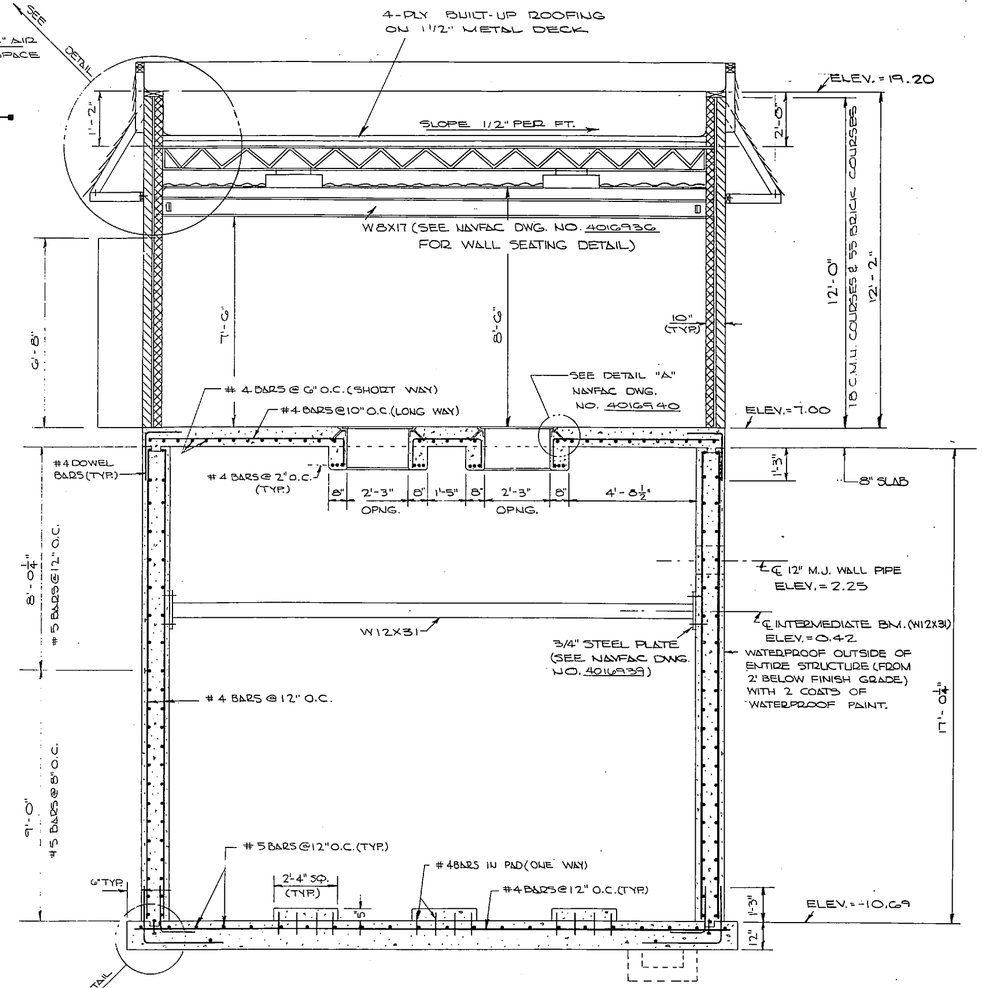
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



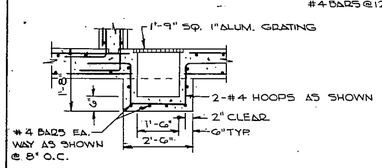
DOOR DETAIL
NO SCALE



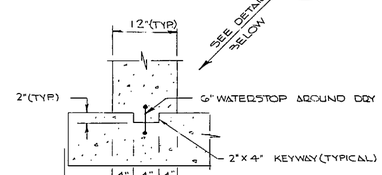
SECTION
SCALE : 1/2" = 1'-0" (G 36/37)



SECTION
SCALE : 1/2" = 1'-0" (H 36/37)



DETAIL - SUMP PUMP PIT REINF.
NO SCALE



TYPICAL KEYWAY DETAIL
NO SCALE

GRAPHIC SCALE
1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

SCALE : 1/2" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.J.H.
SUBMITTED BY: DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DPM DB
APPROVED DATE 11/27/74
OFFICER IN CHARGE
APPROVED DATE 6 NOV 1974
FOR CFA FOR COMMANDER NAVFAC

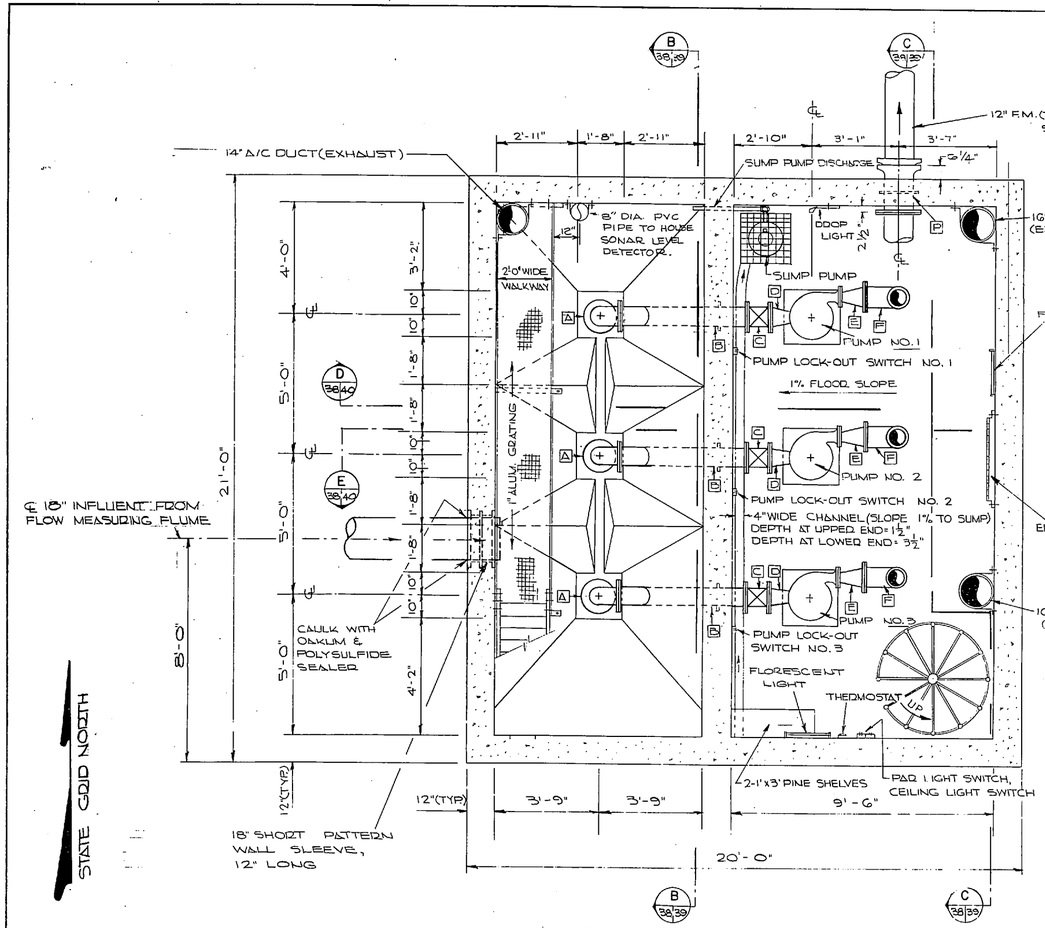
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 ENGINEER

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION
NEW RIVER PUMP STATION
STRUCTURAL

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016937
		CONSTR. CONTR. NO. N62470-73-B-1155
SCALE AS SHOWN	SPEC. DS-73-1155	SHEET 51 of 83

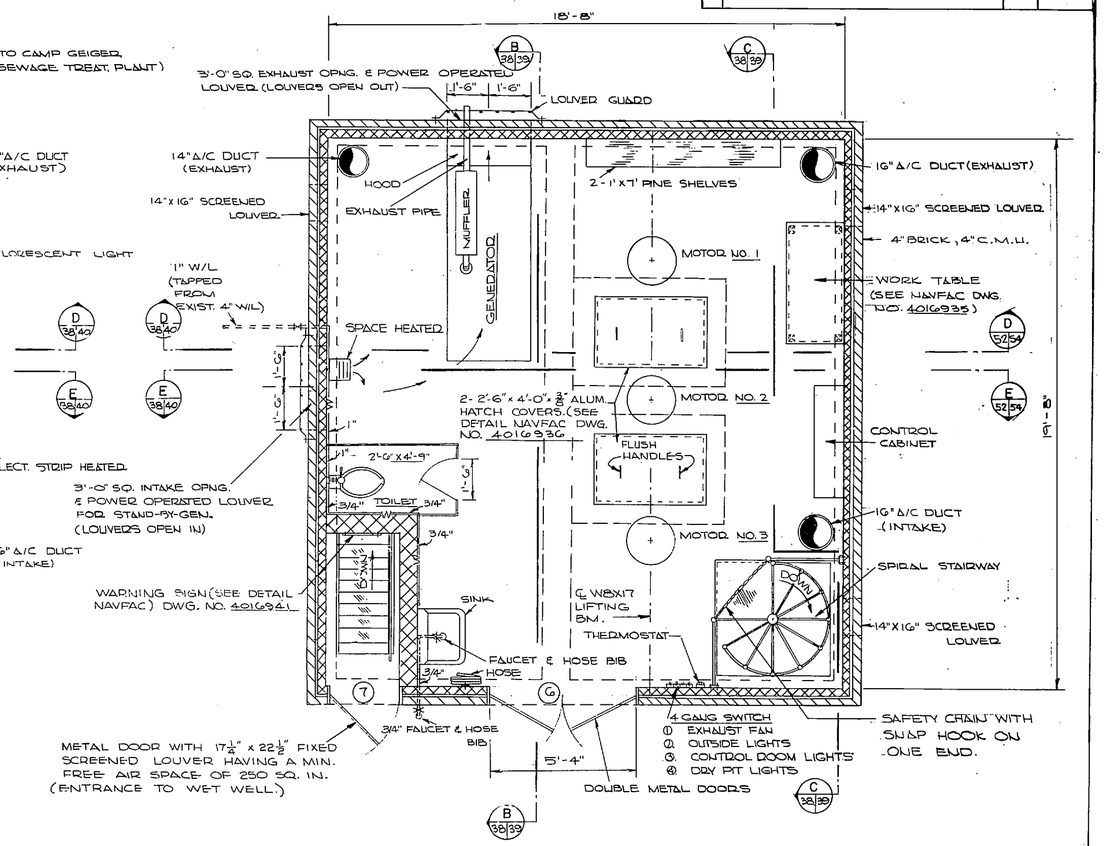
E.F.D. NO. 116937

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



PLAN - WET & DRY WELLS

SCALE: 1/2" = 1'-0"

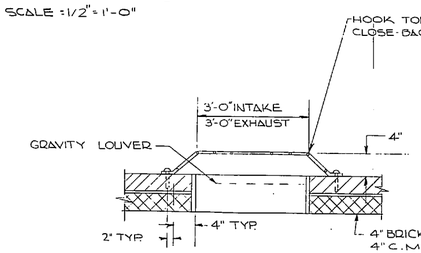


PLAN - CONTROL & GENERATOR ROOM

SCALE: 1/2" = 1'-0"

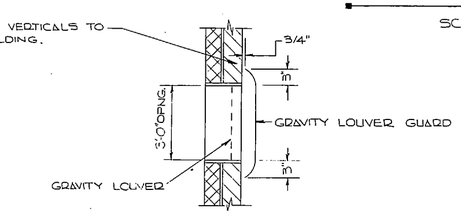
PIPING SCHEDULE FROM 8" BELL TO 12" WALL PIPE

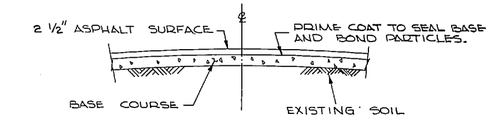
ITEM & DESCRIPTION	QUANTITY
A - 8" FLANGE AND ELL	3EA.
B - 8" FLANGED WALL PIPE, 4'-6½" LONG, WITH INTERMEDIATE WALL COLLAR CENTERED IN WALL	3EA.
C 8" GATE VALVE	6EA.
D 8" X 4" REDUCER (CONCENTRIC)	3EA.
E 4" X 8" INCREASER (CONCENTRIC)	3EA.
F 8" 90° BASE BEND (LONG RADIUS)	3EA.
NOTE: REMAINING ITEMS ARE SHOWN ON NAVFAC DWG. NO. 4016939	
G 8" CHECK VALVE	3EA.
H 8" X 12" INCREASER (CONCENTRIC)	3EA.
I 12" PIPE, 4'-6" LONG (FLANGED)	1EA.
J 12" PIPE, 5'-1" LONG (FLANGED)	2EA.
K 12" - 90° BEND (LONG RADIUS)	1EA.
L 12" - BRANCH FLOW TEE	2EA.
M 12" PIPE, 2'-5" LONG (FLANGED)	1EA.
N 12" PIPE, 3'-0" LONG (FLANGED)	1EA.
O 12" PIPE, 2'-3" LONG (FLANGED)	1EA.
P 12" FLANGED - M.J. WALL PIPE, 1'-8¾" LONG, WITH INTERMEDIATE COLLAR CENTERED IN WALL	1EA.
	1EA.



NOTE: CENTER GUARD OVER GRAVITY LOUVER.

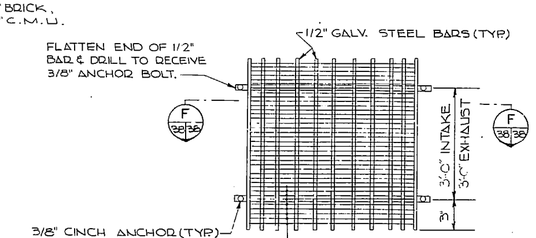
SECTION F 38/39





DETAIL - PUMP HOUSE DRIVE

NO SCALE



NOTE: ENTIRE ASSEMBLY TO BE GALV. AFTER FABRICATION.

DETAIL - GRAVITY LOUVER GUARD

NO SCALE

GRAPHIC SCALE

SCALE: 1/2" = 1'-0" 5' 0' 5' 10' 15'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER), JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

NEW RIVER PUMP STATION
PIPING

DES. M.L.E., DR. C.L., D.B., CHK. M.L.E.
PROJ. MGR. M.L.E., CH. ENGR. C.E.L.
SUBMITTED BY: M. L. Elliott DATE 9/12/74
FIRM MEMBER — PRINCIPAL
EFD RVD
HD DIR
APPROVED — DATE
OFFICER IN CHARGE
APPROVED — DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

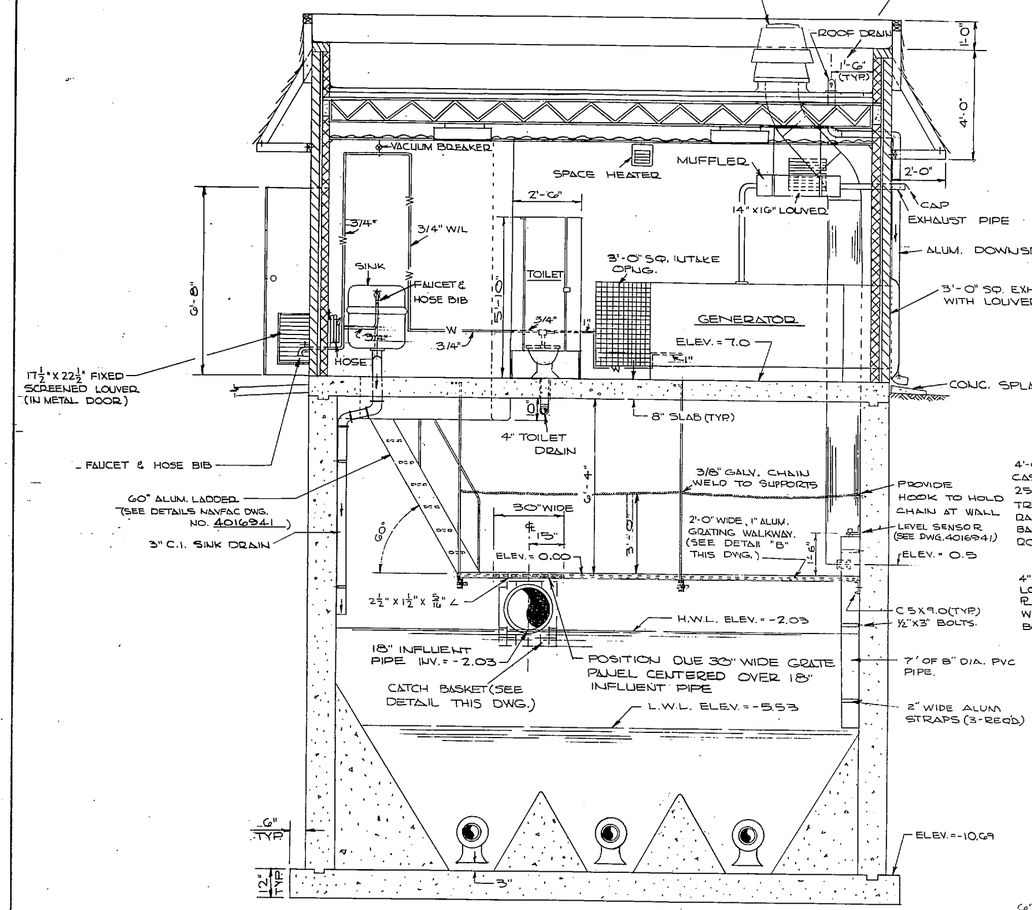
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016938
CONSTR. CONTR. NO. N-62470-73-C-1155		
SCALE AS SHOWN	SPEC. CN-73-1-55	SHEET 52 of 83

E.F.D. NO. 116938

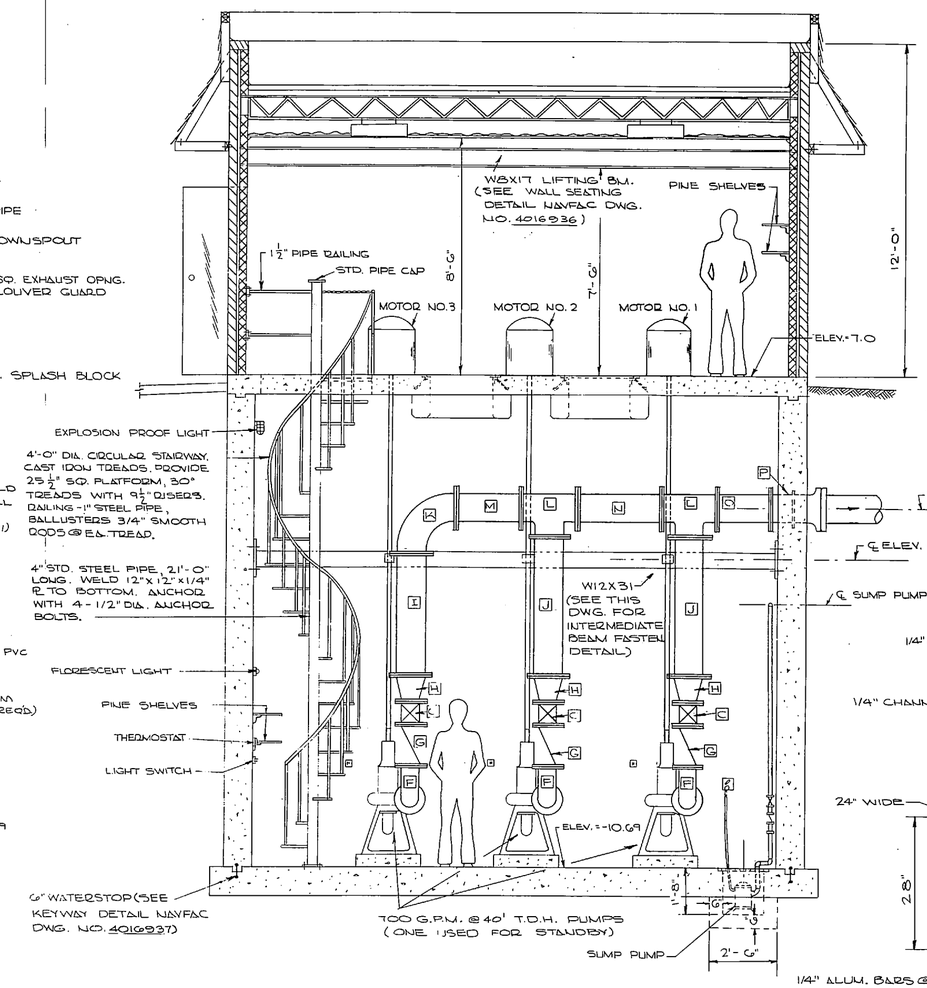
NOTE: SEE NAVFAC DWG. NO. 4016913 FOR ROOF DRAIN DETAILS.

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



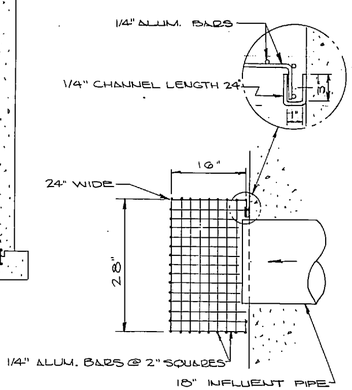
SECTION B (38/39)

SCALE: 1/2" = 1'-0"



SECTION C (38/39)

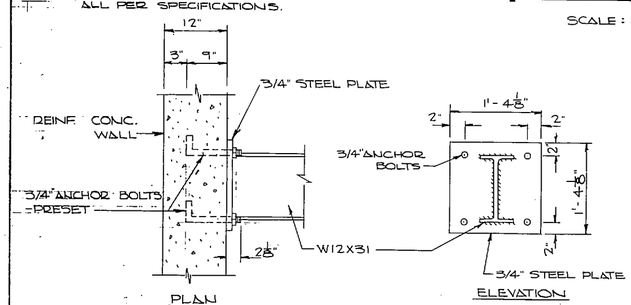
SCALE: 1/2" = 1'-0"



CATCH BASKET DETAIL

SCALE: 1" = 1'-0"

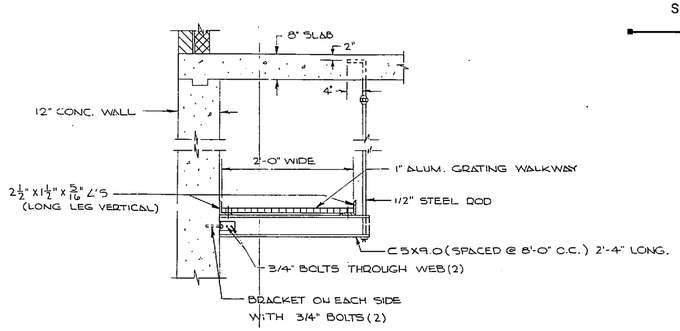
NOTE: BOLT PLATE TO WALL AND FIELD WELD BEAM (W12X31) AFTER PUMPS ARE SET. PAINT ALL PER SPECIFICATIONS.



DETAIL - INTERMEDIATE BEAM PLATE

(2 SUCH REQUIRED)

NO SCALE



DETAIL "B"

NO SCALE

GRAPHIC SCALE

SCALE: 1/2" = 1'-0"

1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

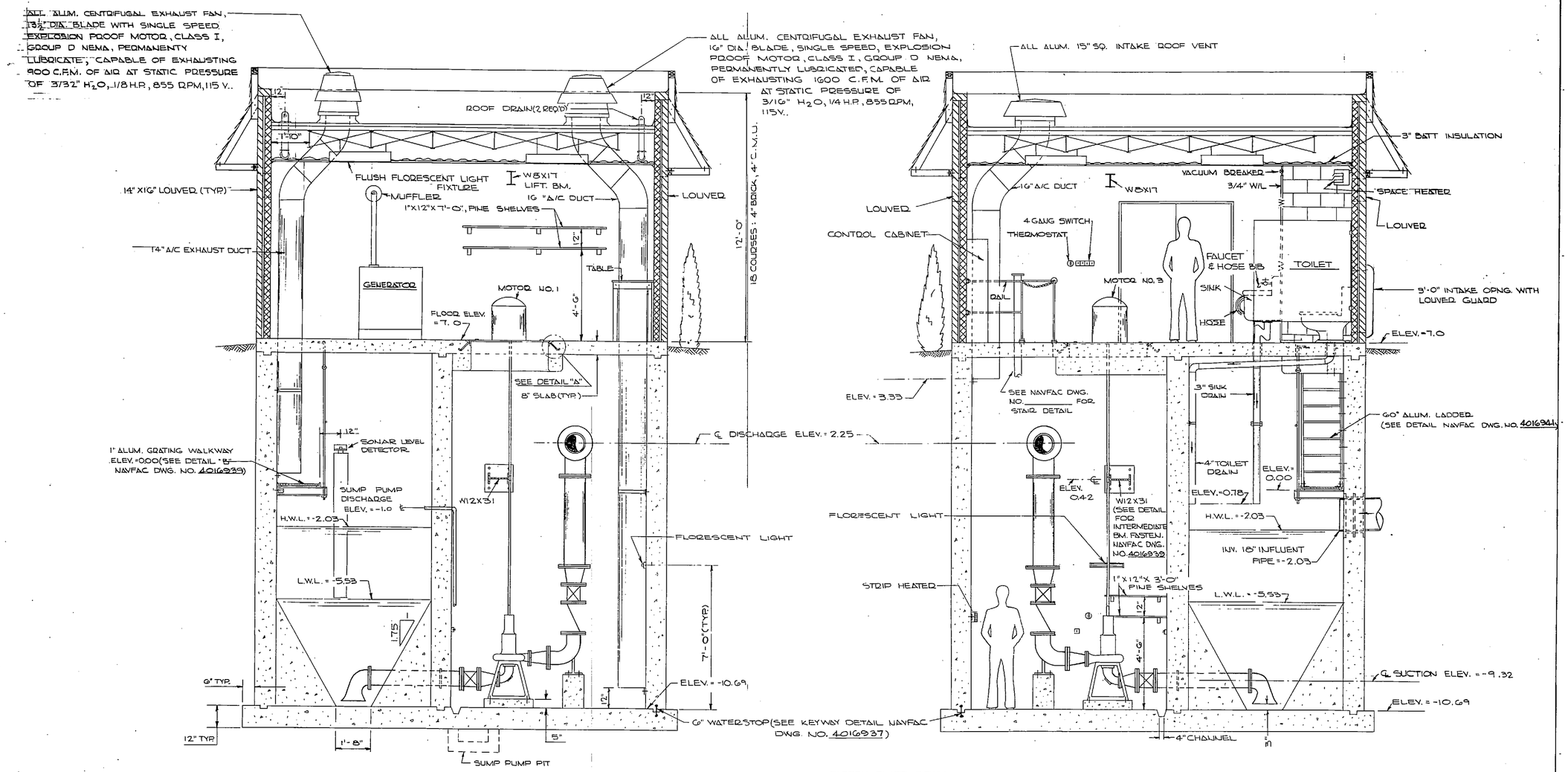
NORTH CAROLINA REGIST. ENGINEER SEAL X 4277 J. K. TIMMONS

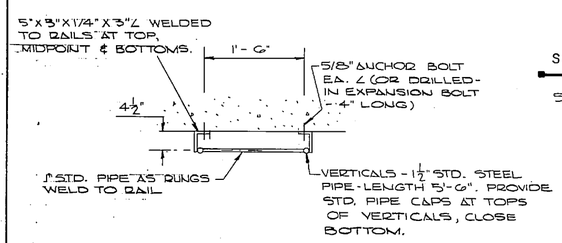
J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION
NAVAL STATION	NORFOLK, VA.
DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.	NEW RIVER MARINE CORPS AIR STATION (MERLE COOPER FIELD) JACKSONVILLE, NORTH CAROLINA
PROJ. MGR. M.L.E. CH. ENGR. J.J.H.	UTILITY EXPANSION
SUBMITTED BY: J. K. Timmons DATE 7/16/74	SEWAGE PUMPING STATION SECTIONS
FIRM MEMBER PRINCIPAL	
EFD RVD. HD DIR.	
APPROVED DATE 7/24/74	
OFFICER IN CHARGE	
APPROVED DATE 4 NOV. 1974	
FOR EFD FOR COMMANDER NAVFAC	

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016939
		CONSTR. CONTR. NO.
SCALE AS SHOWN	SPEC.	SHEET 53 OF 83

E.F.D. NO. 116939

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



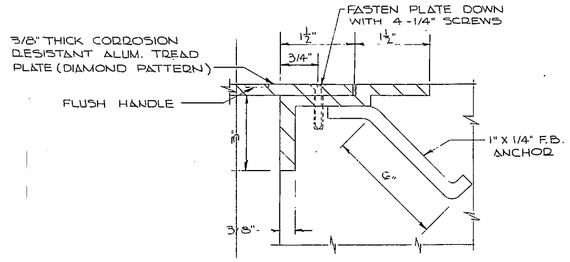


LADDER DETAIL - FLOW MEASURING FLUME

NO SCALE

SECTION D 38/40

SCALE : 1/2" = 1'-0"



DETAIL "A"

NO SCALE

SECTION E 38/40

SCALE : 1/2" = 1'-0"

GRAPHIC SCALE

SCALE : 1/2" = 1'-0" 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 X J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

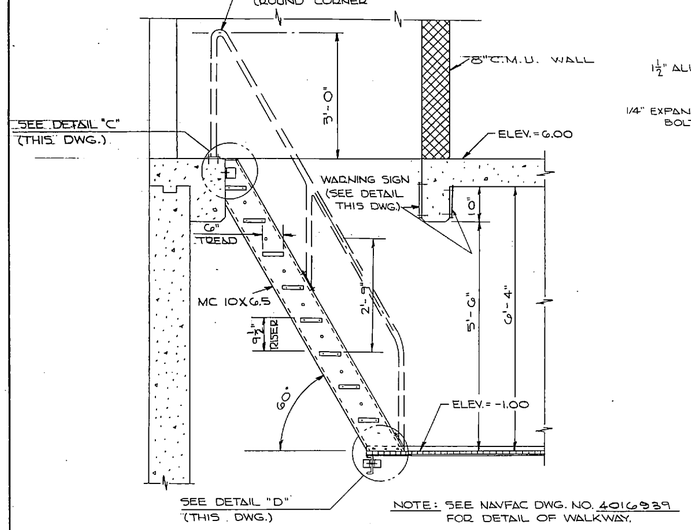
DES. M.L.E. DR. C.L. / D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: DATE 7/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
KD DIR
APPROVED DATE 7/29/74
OFFICER IN CHARGE
APPROVED DATE NOV 1974
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.
NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE NORTH CAROLINA
UTILITY EXPANSION
NEW RIVER PUMP STATION
SECTIONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016940
		CONTR. CONTR. NO. N62470-73-B-1155
SCALE AS SHOWN	SPEC. 0-73-1155	SHEET 54 of 83

E.F.D. NO. 116940

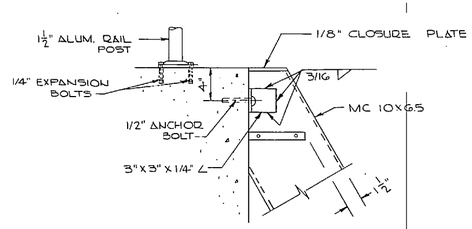
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: SEE NAVFAC DWG. NO. 4016939 FOR DETAIL OF WALKWAY.

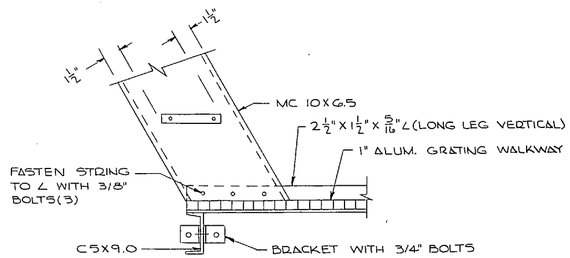
ELEVATION DETAIL - 60° ALUMINUM LADDER

SCALE: 3/4" = 1'-0"



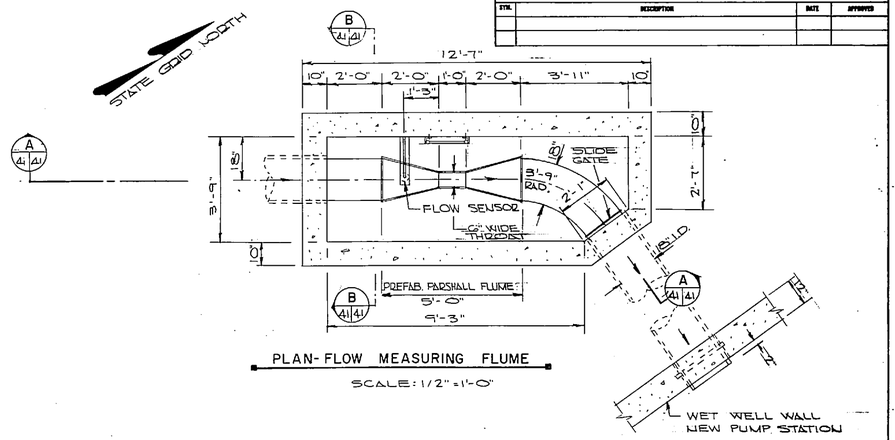
DETAIL "C"

NO SCALE



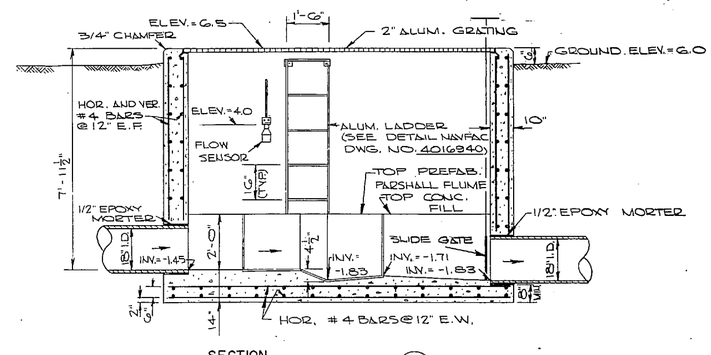
DETAIL "D"

NO SCALE



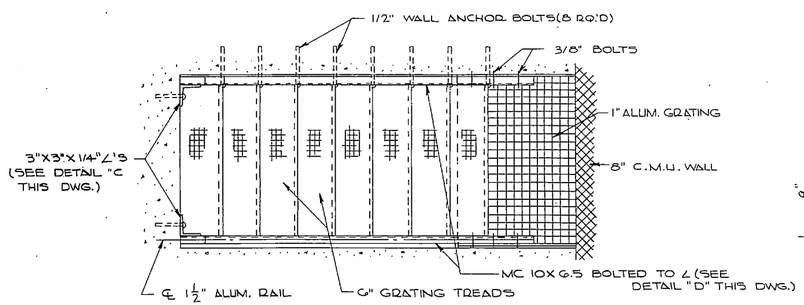
PLAN - FLOW MEASURING FLUME

SCALE: 1/2" = 1'-0"



SECTION

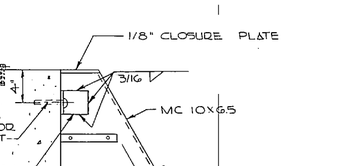
SCALE: 1/2" = 1'-0"



NOTE: LADDER IS TO BE 2'-0" WIDE FROM OUTSIDE OF STRING TO OUTSIDE OF STRING

PLAN - 60° ALUMINUM LADDER TO WET WELL

SCALE: 1½" = 1'-0"

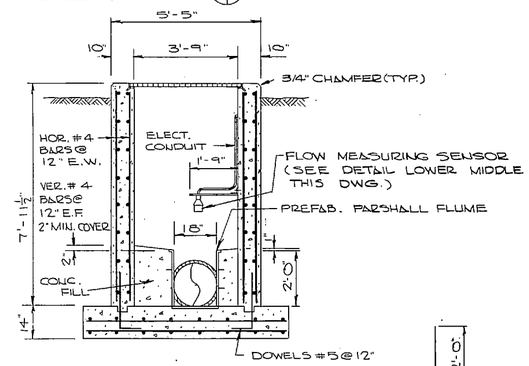


NOTE: FASTEN TO BEAM IN WET WELL WITH MASONRY NAILS.

NOTE: SIGN TO BE NEATLY STENCILLED BY QUALIFIED SIGN PAINTER.

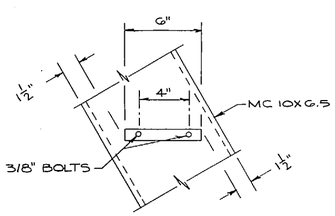
WARNING SIGN DETAIL

NO SCALE



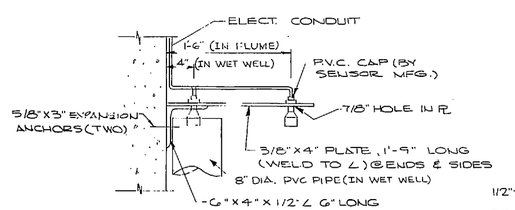
SECTION

SCALE: 1/2" = 1'-0"



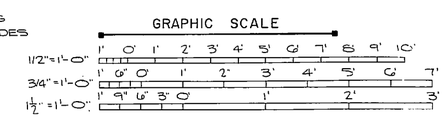
TYPICAL TREAD DETAIL

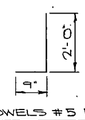
NO SCALE



FLOW SENSOR MOUNTING DETAIL

SCALE: 1½" = 1'-0"





DOWELS #5 BARS

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL SEAL 4277 ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

NEW RIVER PUMP STATION
DETAILS

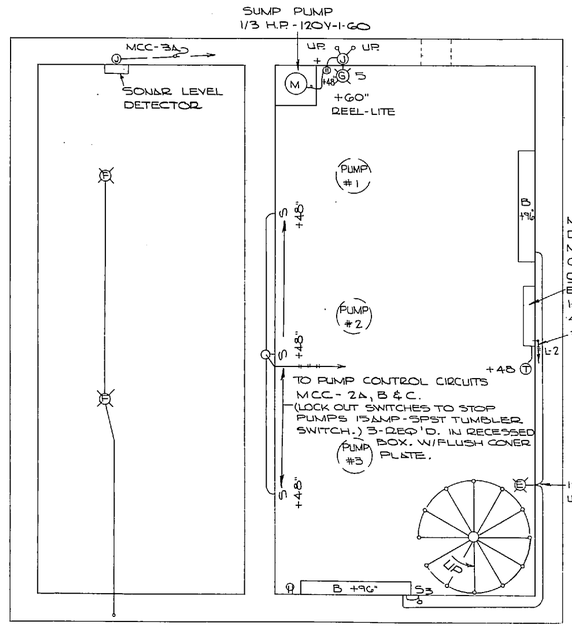
DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.	
PROJ. MGR. M.L.E. CH. ENGR. J.M.H.	
SUBMITTED BY:	DATE
FIRM MEMBER	PRINCIPAL
CFD	RVD
HD	DIR
APPROVED	DATE 9/2/74
OFFICER IN CHARGE	
APPROVED	DATE 1 NOV 1974
FOR CFD FOR COMMANDER NAVFAC	

SIZE	CONT IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016941
		CONTR. CONTR. NO.
SCALE AS SHOWN	SPEC.	SHEET 55 of 83

E.F.D. NO. 116941

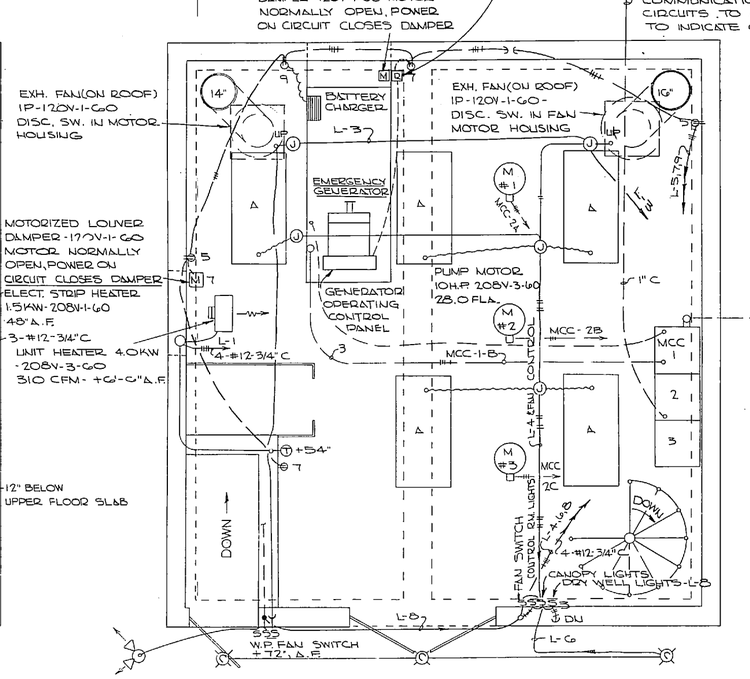
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

STATE GRID NORTH



PLAN - DRY AND WET WELLS

SCALE: 1/2" = 1'-0"



PLAN- GENERATOR & CONTROL ROOM

SCALE: 1/2" = 1'-0"

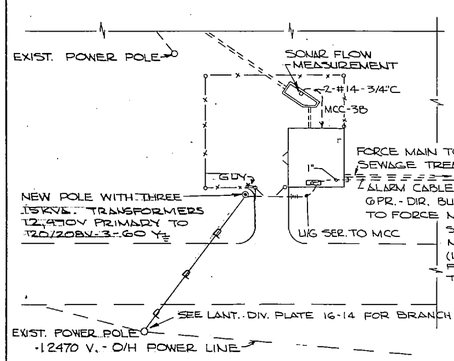
SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
	BRANCH CIRT. AB. FL., IN WALL OR CEILING — CROSS MARKS SHOW NO. OF #12 WIRES, IF OTHER THAN 2, AND SIZE IS NOT SHOWN, OTHERWISE
	BRANCH CIRT. IN OR BELOW FL. SLAB
	CONTROL CIRT.
	HOME RUNS TO P/BD. OR MCC. (ARROWS SHOW NO. OF CKTS.)
WP	DUPLEX OUTLET; WP-WEATHER PROOF COVER
S, S_3, S_4	WALL SWITCHES-SPST-3WAY-4WAY
S_M	MOTOR PROTECTION SWITCH
	DISCONNECT SWITCH
	MAGNETIC MOTOR STARTER-CONTACTOR
T	RM. THERMOSTAT-54" A.F.L.
M	ELECTRIC MOTOR
	LIGHTING FIXTURES.
T	TIMER SWITCH
J	JUNCTION BOX
2	PUMP RUNNING TIME RECORDER
P	PRESSURE SWITCH
M	MOTORIZED CONTROL DAMPER-(24V.)

ELECTRICAL LOAD SUMMARY	
LOAD	KVA
SINGLE PHASE (BALANCED PHASE)	7.8
THREE PHASE	34.9
TOTAL LOAD (3 PUMPS)	42.7
LARGEST MOTOR 10HP-3Φ	9.8
ELECTRIC RESISTANCE HEAT	4.0
PROBABLE DEMAND (2 PUMPS)	27.6

PUMP OPERATING SCHEDULE				
WATER LEVEL ELEV.-FT.	LEVEL RISING READ UP	LEVEL FALLING READ DN.	G.P.M. TOTAL (OUTFLOW)	HEAD TOTAL (FEET)
	START PUMP	STOP PUMP		
ABOVE -1.0	START NO. 3	ALL PUMPS ON	1530	36.5
-2.03	(HIGH LEVEL ALARM)	STOP NO. 3		
-2.20	START NO. 2	"	1400	35
-3.20	" " 1	" " 2	700	22
-5.53	ALL PUMPS OFF	" " 1	0	—

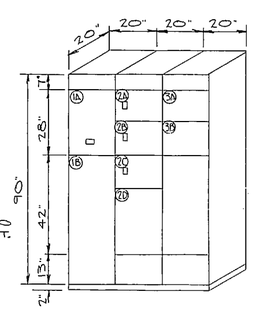
MOTOR CONTROL CENTER

1-A MAIN DISCONNECT SWITCH-200AMP-600VOLT-TYPE 3b CIRCUIT BREAKER-25000 AIC (SYMMETRICAL) INTERUPTING RATING-
1-B AUTOMATIC TRANSFER SWITCH-(NARROW TYPE)-225 AMP FRAME 250 VOLTS-3POLE-4WIRE-CLASS 3b CIRCUIT BREAKERS, SET 175 AMPS.-THERMAL MAGNETIC TRIPS.
2-A, 2-B, 2-C PUMP CONTROLS-60AMP.-250VOLT-3POLE-TYPE 2d CIRCUIT BREAKER (18,000 AIC RATING)-SIZE #2 MAGNETIC MOTOR STARTER, THREE-LEG OVERLOAD PROTECTION, HAND-OFF-AUTO SELECTOR SWITCH IN COVER; 2 AUX. CONTACTS-120V. CONTROL.-
2-D LIGHTING PANEL-"L"
3-A SONAR LIQUID LEVEL DETECTOR-PUMP CONTROL & ALARM.
3-B " FLOW MEASUREMENT.



PART SITE PLAN- ELECTRICAL

SCALE: 1" = 20'



MOTOR CONTROL CENTER

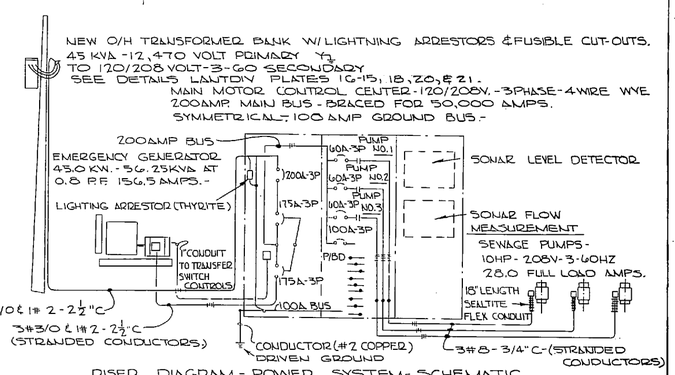
NO SCALE

MCC - PANEL BOARD 2-D				
PANELBOARD	BREAKER			LOAD DESCRIPTION
	POS.	POLES	TRIP AMPS.	
P/BD-L 100A-120/208V 3PHASE-4WIRE S/N-100AMP 3POLE-TYPE 2d MAIN BREAKER	1	3	15	ELECT. HEAT-CONTROL RM.-4KW
	2	2	15	" " -DRY WELL-2KW
	3	1	15	EXH. FANS-1/3H.P. & 1/4 H.P.
	4	1	20	LIGHTS-CONTROL RM.
	5	1	20	DUPLEX-+SUMP PUMP (1/3H.P.)
	6	1	20	LIGHTS-EXTERIOR
BRANCH BKRS TYPE 5-1a & 1b 10,000 AIC. 250V.-A.C.	7	1	20	DUPLEX-+DAMPER MOTORS
	8	1	20	LIGHTS WET & DRY WELLS
	9	1	15	GENERATOR BATTERY CHARGER
	10	1	15	SONAR FLOW METERING
	11	1	20	"
	12	1		"
	14	1		"
	15-16			"

GRAPHIC SCALE

1/2" = 1'-0": 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

1" = 20': 25' 0' 25' 50' 75'



RISER DIAGRAM - POWER SYSTEM - SCHEMATIC

NO SCALE

NOTE: ALL CONDUCTORS TO BE COPPER UNLESS ALUMINUM IS INDICATED, INSULATION TO BE TYPE THW.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

DES. B.E.C. DR. C.L./D.B. CHK. B.E.C.
PROJ. MGR. M.L. EL. CH. ENGR. J.L.H.
SUBMITTED BY: M. L. Elliott DATE 3/12/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE 12/7/74
ORDER IN CHARGE
APPROVED — DATE 8 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

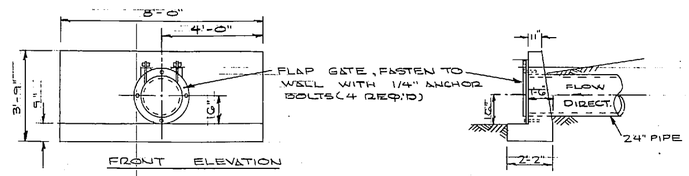
NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER

NEW RIVER PUMP STATION
ELECTRICAL

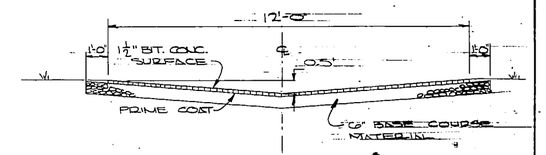
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016942
		CONSTR. CONTR. NO. 116747 73-B-1155
SCALE AS SHOWN	SPEC. 05-7 155	SHEET 56 of 83

E.F.D. NO. 116942

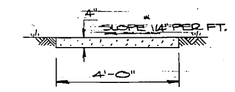
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



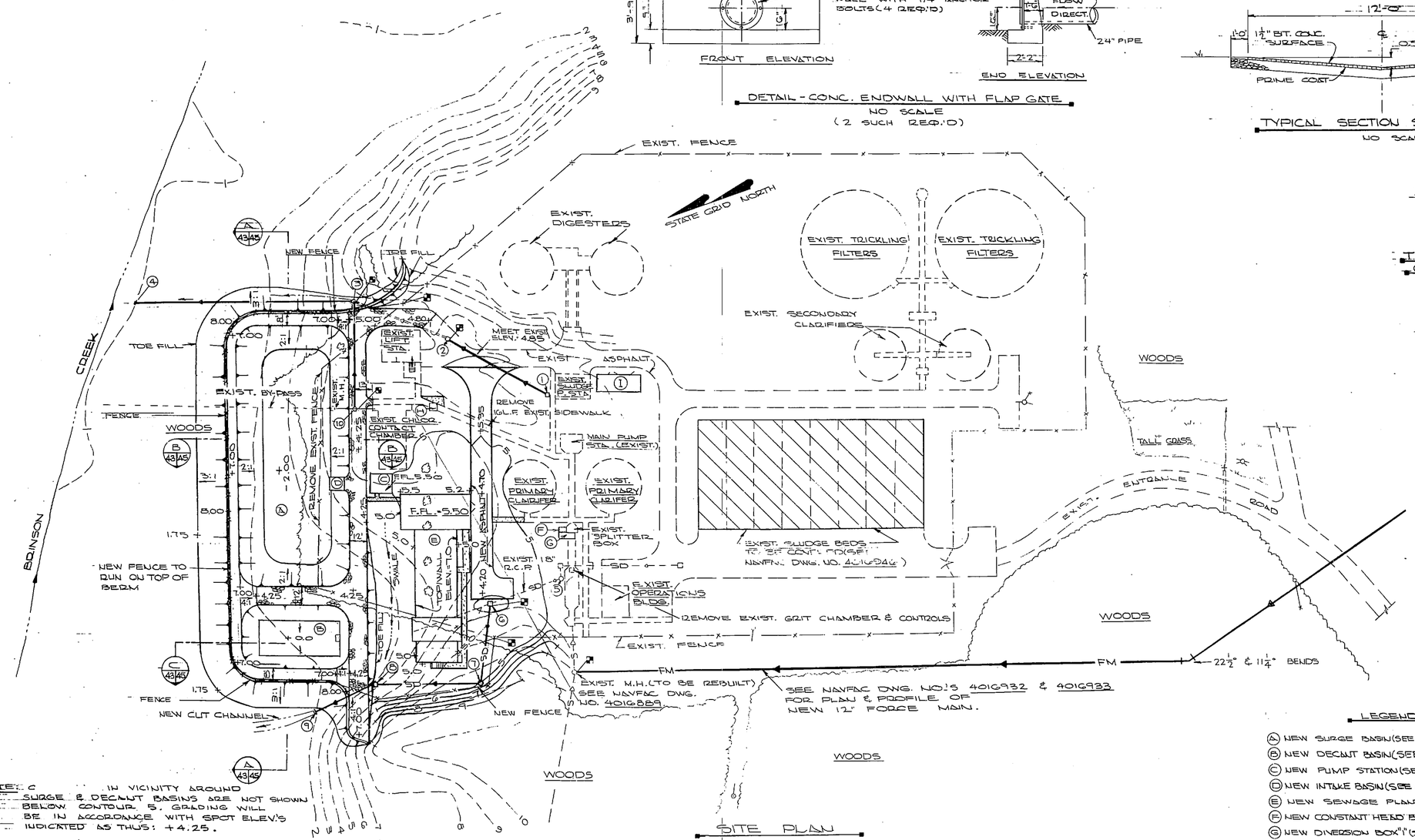
DETAIL - CONC. ENDWALL WITH FLAP GATE
NO SCALE
(2 SUCH REQ'D)



TYPICAL SECTION SERVICE DRIVE
NO SCALE



TYPICAL SECTION
CONCRETE SIDEWALK
NO SCALE



SITE PLAN
SCALE: 1" = 30'

NOTE: C IN VICINITY AROUND SURGE & DECANT BASINS ARE NOT SHOWN BELOW CONTOUR 5. GRADING WILL BE IN ACCORDANCE WITH SPOT ELEV.'S INDICATED AS THUS: +4.25.

DRAINAGE ITEMS				
STRUCTURE NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT
1	INLET	5.30	—	2.02
2 (EXIST.)	"	4.36	1.79	1.74
3	M.H.	6.50	1.53	0.00
4	ENDWALL	2.07	—	0.00
5 (EXIST.)	M.H.	6.00	1.00	1.00
6	INLET	4.06	1.00	1.00
7	M.H.	5.50	1.00	1.00
8	INLET	3.55	1.00	1.00
9	ENDWALL	3.67	—	1.00
10	M.H.	4.25	0.82	0.75

NOTE: NEW ENDWALLS TO BE PROVIDED WITH FLAP GATES (SEE DETAIL THIS DWG.

PIPE	SIZE	LENGTH	SLOPE
1 TO 2	12"	75 L.F.	0.3%
2 TO 3 (EX.)	12"	70 L.F.	0.3%
3 TO 4	24"	154 L.F.	0.0%
5 TO 6	18"	50 L.F.	"
6 TO 7	18"	55 L.F.	"
7 TO 8	18"	70 L.F.	"
8 TO 9	24"	45 L.F.	"
10 TO 3	24"	75 L.F.	1.0%

NOTES: (1) REMOVE FLARED E.S. FROM EXISTING 12" STORM DRAIN PIPE BEFORE PROVIDING NEW MANHOLE (STRUCTURE NO. 3)
(2) TIE INTO EXIST. 21" BY-PASS LINE WITH NEW MANHOLE (STRUCTURE NO. 10). REMOVE EXIST. BY-PASS LINE AND EXIST. M.H. FROM NEW M.H BACK TO CREEK.

GRAPHIC SCALE
25 0 25 50 75 100 125

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

LEGEND

(A) NEW SURGE BASIN (SEE NAVFAC DWG. NO. 4016945)
(B) NEW DECANT BASIN (SEE NAVFAC DWG. NO. 4016945)
(C) NEW PUMP STATION (SEE NAVFAC DWG. NO. 4016956)
(D) NEW INTAKE BASIN (SEE NAVFAC DWG. NO. 4016956)
(E) NEW SEWAGE PLANT (SEE NAVFAC DWG. NO. 4016948)
(F) NEW CONSTANT HEAD BOX (SEE NAVFAC DWG. NO. 4016955)
(G) NEW DIVERSION BOX "1" (SEE NAVFAC DWG. NO. 4016956)
(H) NEW DIVERSION BOX "2" (SEE NAVFAC DWG. NO. 4016955)
■ DESIGNATES POINT OF CONNECTION TO EXISTING UTILITY OR FENCE.
CONC. WALK (NEW) (EXIST.)
(3) DRAINAGE ITEMS (SEE CHART AT LEFT THIS DWG.
(1) NEW GENERATOR & CHEMICAL MIX BLDG. (SEE NAVFAC DWG. NO. 4016957)
NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ADDITIONAL ABBREVIATIONS AND LEGEND.

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

DES. M.L.E. DR. C.L. / DES. CHK. M.L.E.
PROJ. MGR. M.L. ESH. ENGR. J.H.H.
SUBMITTED BY: DATE 9/12/14
FIRM MEMBER — PRINCIPAL
EFD — AVD
HD — DIR
APPROVED — DATE 7/29/74
OFFICER-IN-CHARGE
APPROVED — DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

NEW RWTP MARINE CORPS AIR STATION (HELICOPTER)
NEW RIVER, NORTH CAROLINA
UTILITY EXPANSION

SEWAGE TREATMENT PLANT
SITE PLAN

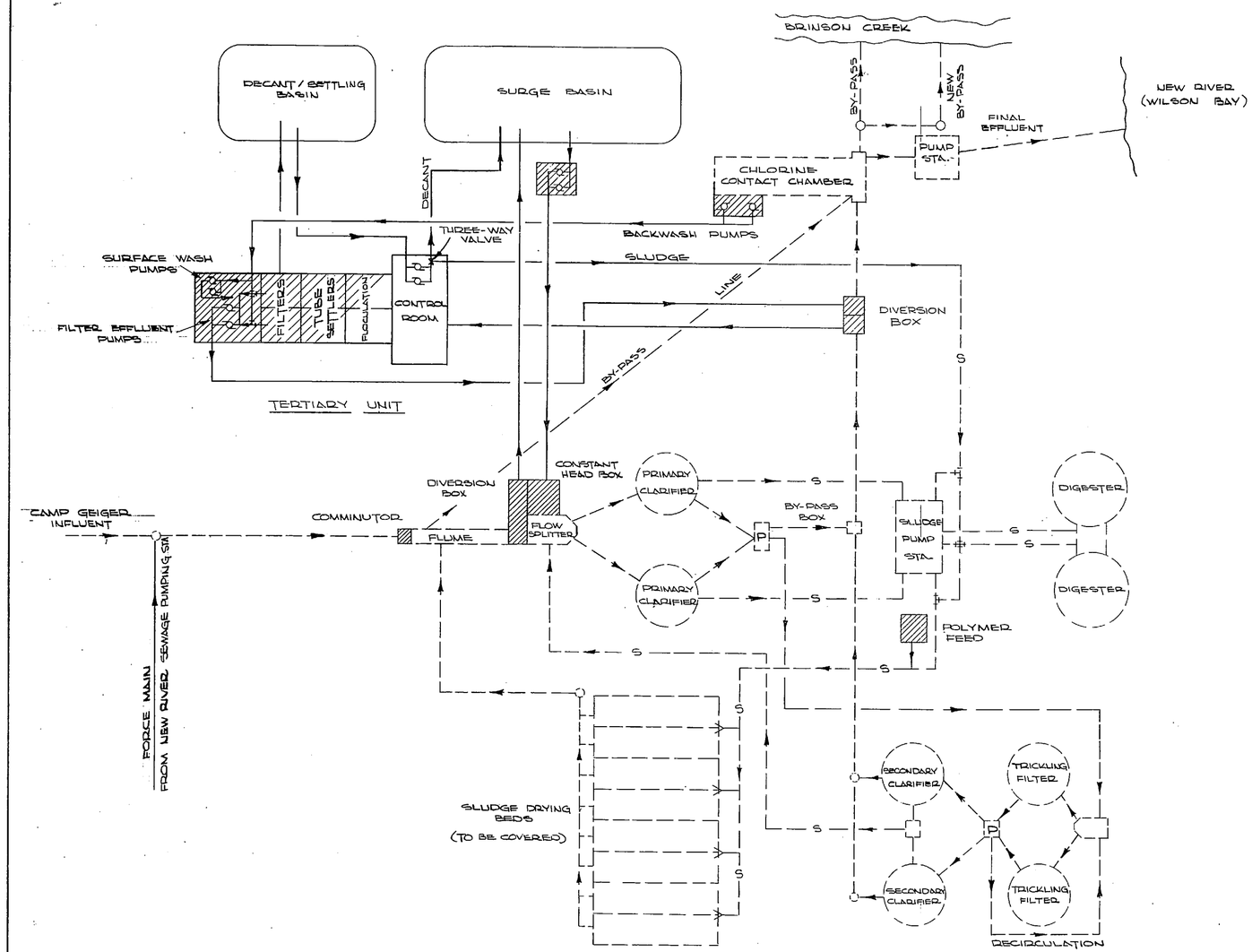
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016943

CONTR. CONTR. NO.
SCALE AS SHOWN SPEC. 06-33-95 SHEET 57 OF 83
E.F.D. NO. 116943

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

LEGEND

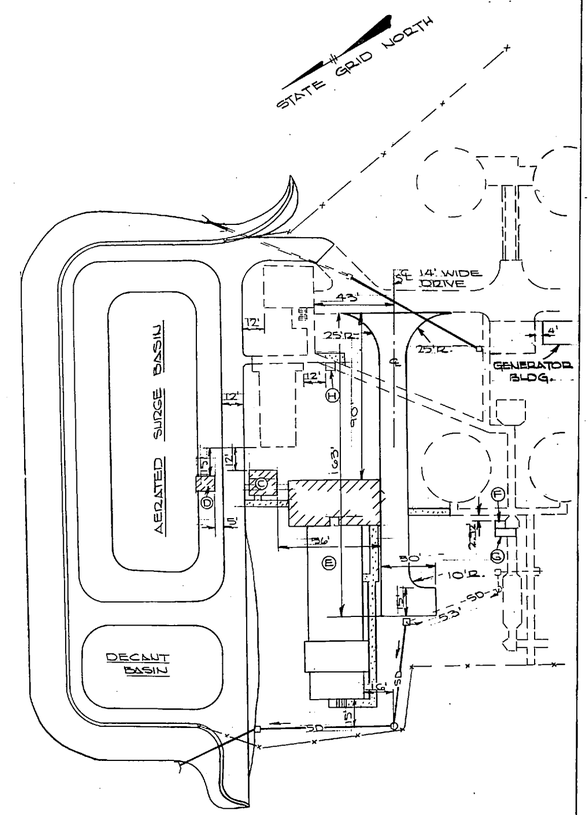
NEW	EXISTING	ITEM
S	S	SEWAGE PIPING
		SLUDGE PIPING
		STRUCTURES



SEWAGE PLANT FLOW DIAGRAM

SCHEMATIC

NO SCALE



SEWAGE TREATMENT PLANT LOCATION PLAN

SCALE: 1" = 30'

NOTE: SEE NAVFAC DWG. NO. 4016943 FOR Ⓔ DESIGNATIONS.

NOTE: SEE NAVFAC DWG. NO. 4016889 FOR ADDITIONAL SYMBOLS AND LEGENDS.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

GRAPHIC SCALE

1" = 30' 25' 0' 25' 50' 75' 100' 125'

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

UTILITY EXPANSION

SEWAGE TREATMENT PLANT
SCHEMATIC & LOC. PLAN

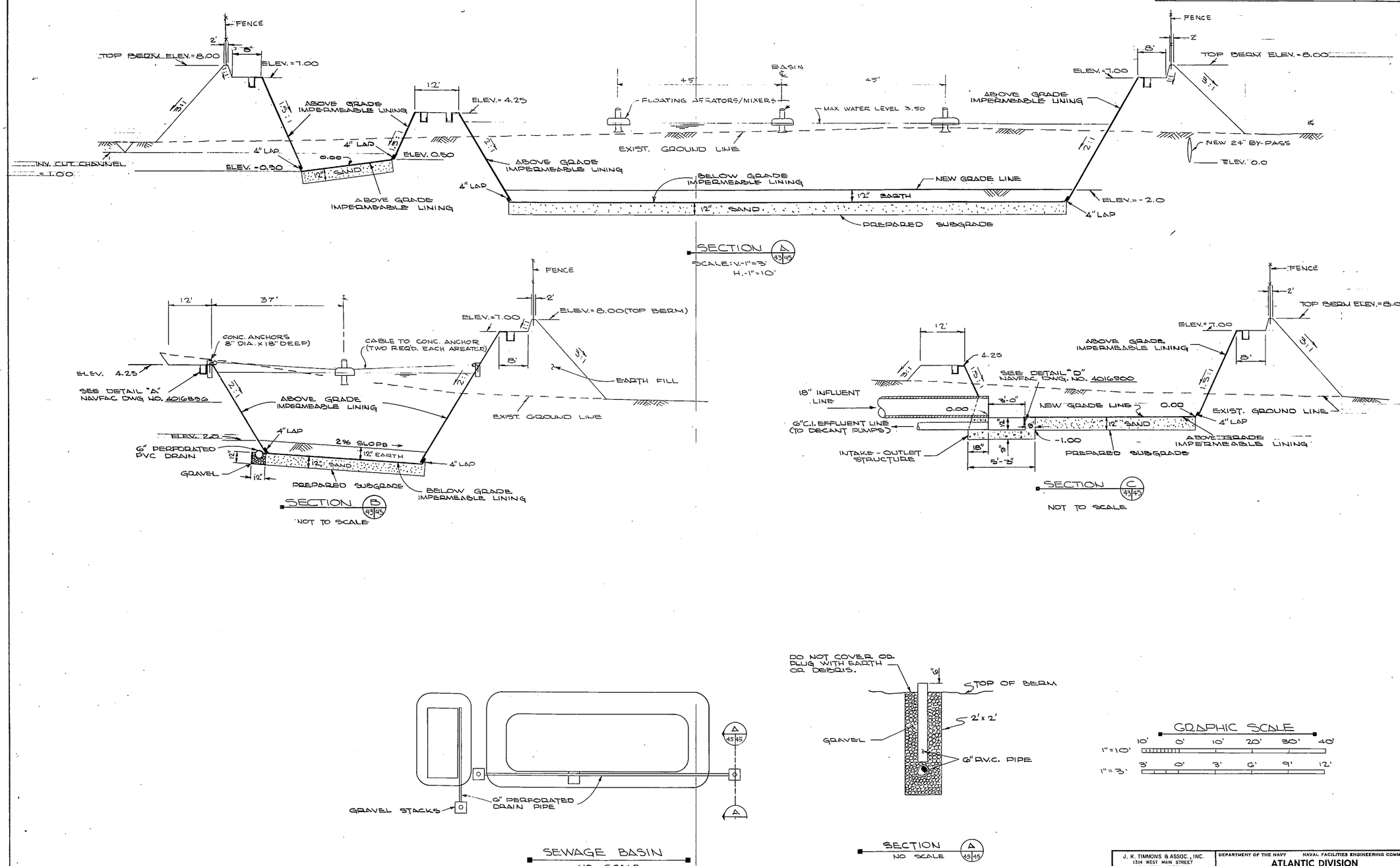
DES. M.L.E., DR. C.L., D. E. & H. M.I.E.
PROJ. MGR. M.L., M.CH. ENGR. J.H.M.
SUBMITTED BY: DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
NO DIR
APPROVED DATE
OFFICER, IN CHARGE
ADMINISTRATIVE DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 JOHN H. MCCLELLAND

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016944
SCALE AS SHOWN	SPEC. 05-93-55	CONTR. CONTR. NO. N62470-73-B-1156
		SHEET 58 of 83

E.F.D. NO. 116944

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR.
APPROVED DATE 7/23/74
OFFICER-IN-CHARGE
APPROVED DATE NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

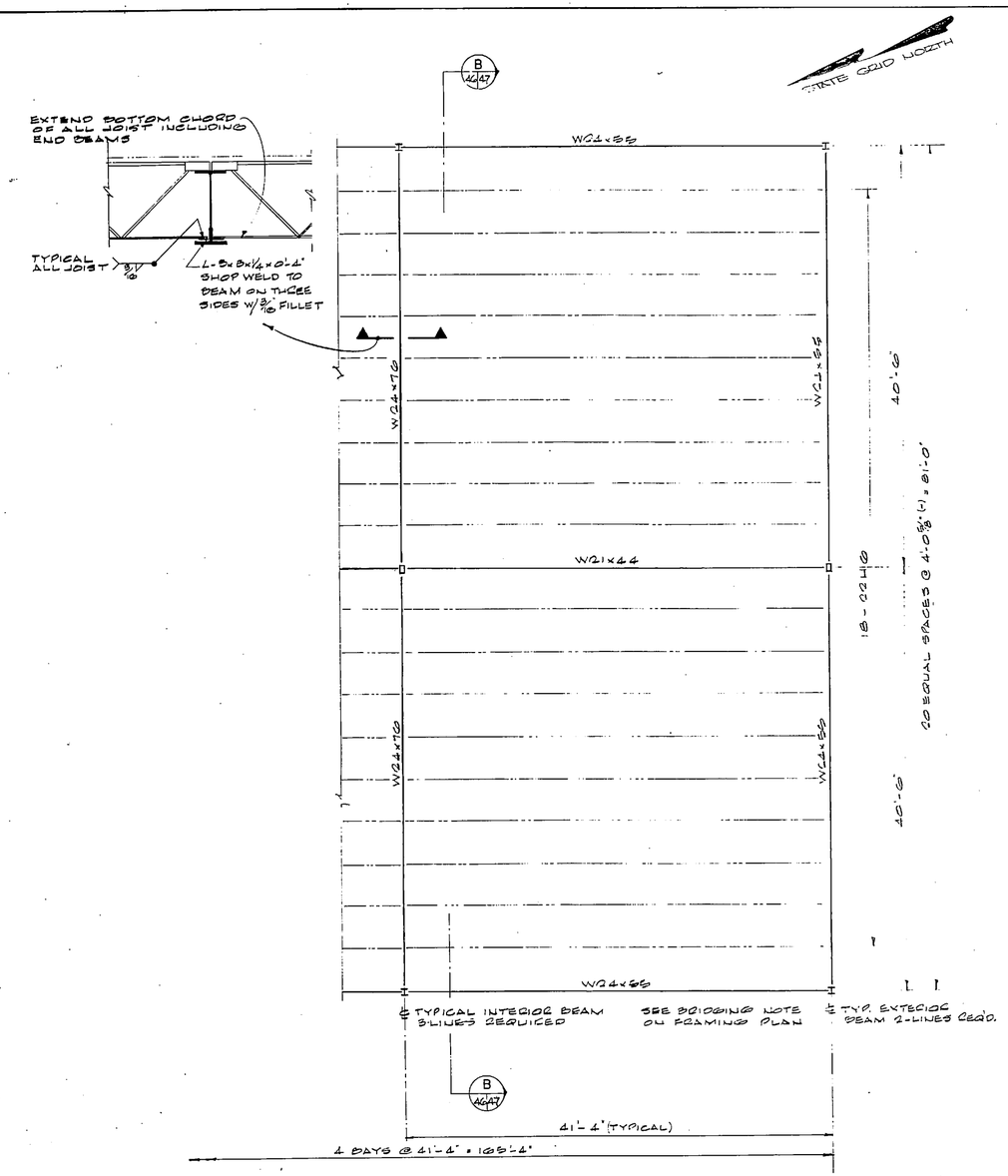
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.
NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

SEWAGE TREATMENT PLANT
BASIN DETAILS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016945
CONSTR. CONTR. NO.		
SCALE AS SHOWN	SPEC.	SHEET 59 of 83

E.F.D. NO. 116945

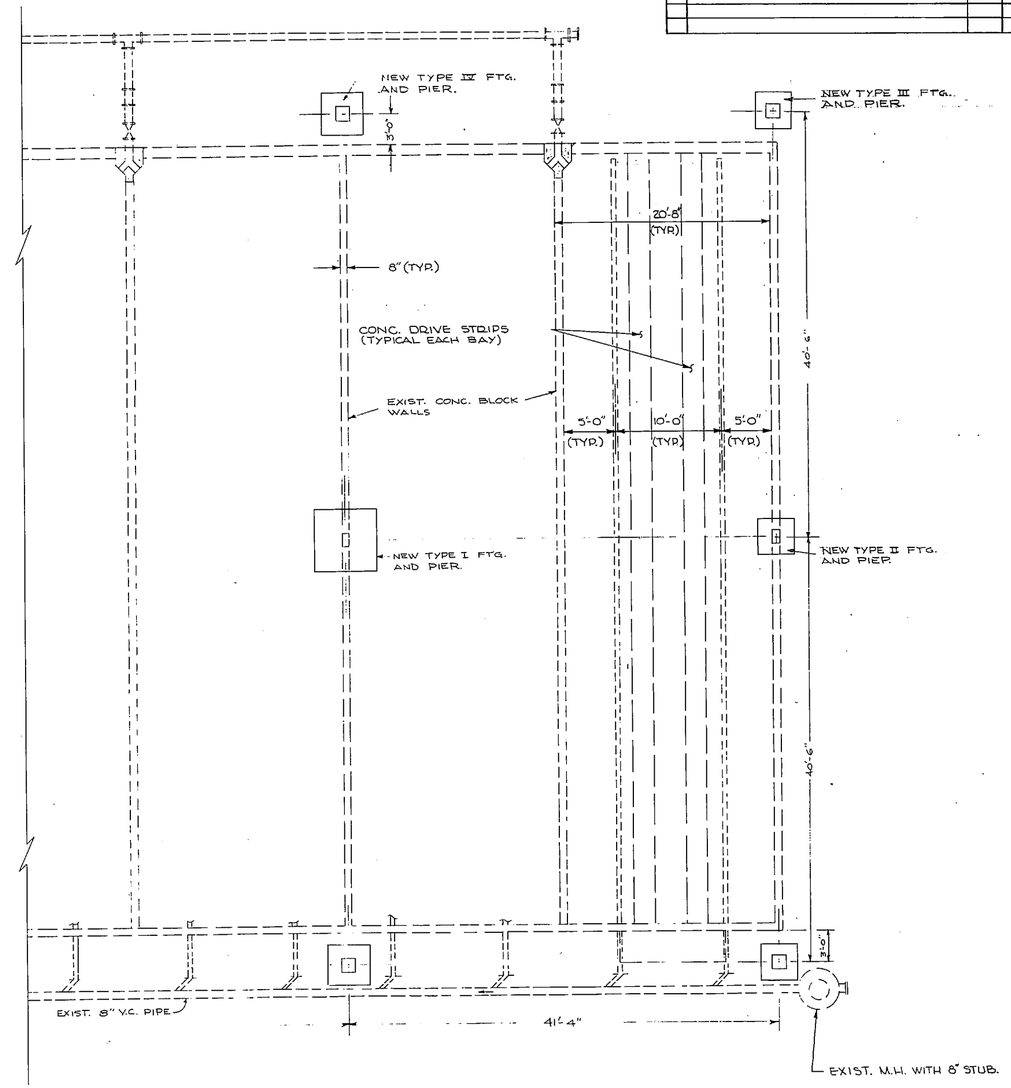
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



TYPICAL BAY ROOF FRAMING PLAN (SLUDGE BEDS)

SCALE: 3/16" = 1'-0"

(SEE NAVFAC. DWG. 4016947 FOR COMPLETE LAYOUT)



HALF OF FOUNDATION PLAN (SLUDGE BEDS)

SCALE: 3/16" = 1'-0"

(SEE NAVFAC DWG. 4016947 FOR COMPLETE LAYOUT)

GRAPHIC SCALE

3/16" = 1'-0" 5' 0' 5' 10' 15' 20' 25'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DES. M.L.E. DR. C.L. / D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.L.H.
SUBMITTED BY: M. L. Eck DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR
APPROVED DATE 11/29/74
OFFICER IN CHARGE
APPROVED 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

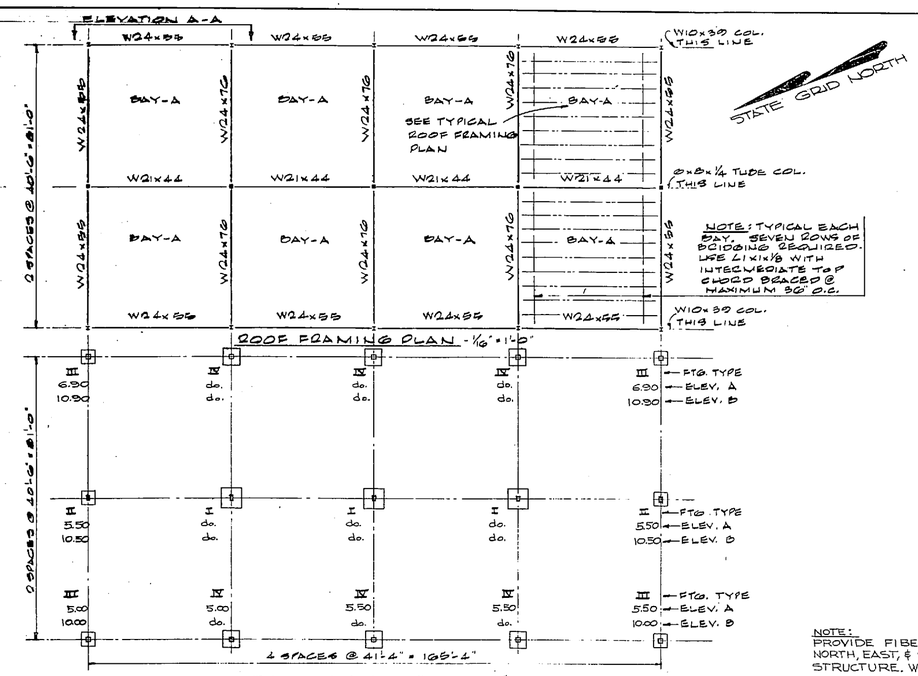
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY DIVISION

SLUDGE BEDS
ROOF & FOUNDATION

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016946
	CONSTR. CONTR. NO.	B 1155
SCALE AS SHOWN	SPEC.	SHEET 60 of 83

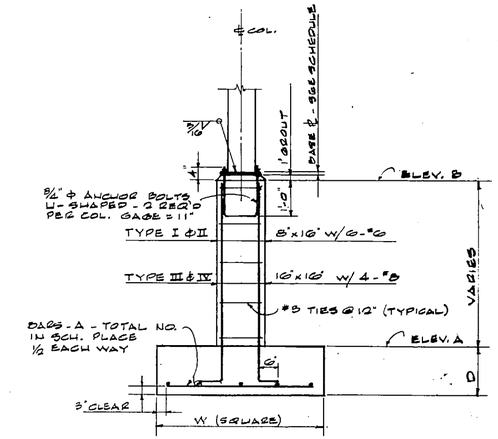
E.F.D. NO. 116946



ROOF FRAMING PLAN - 1/16" = 1'-0"

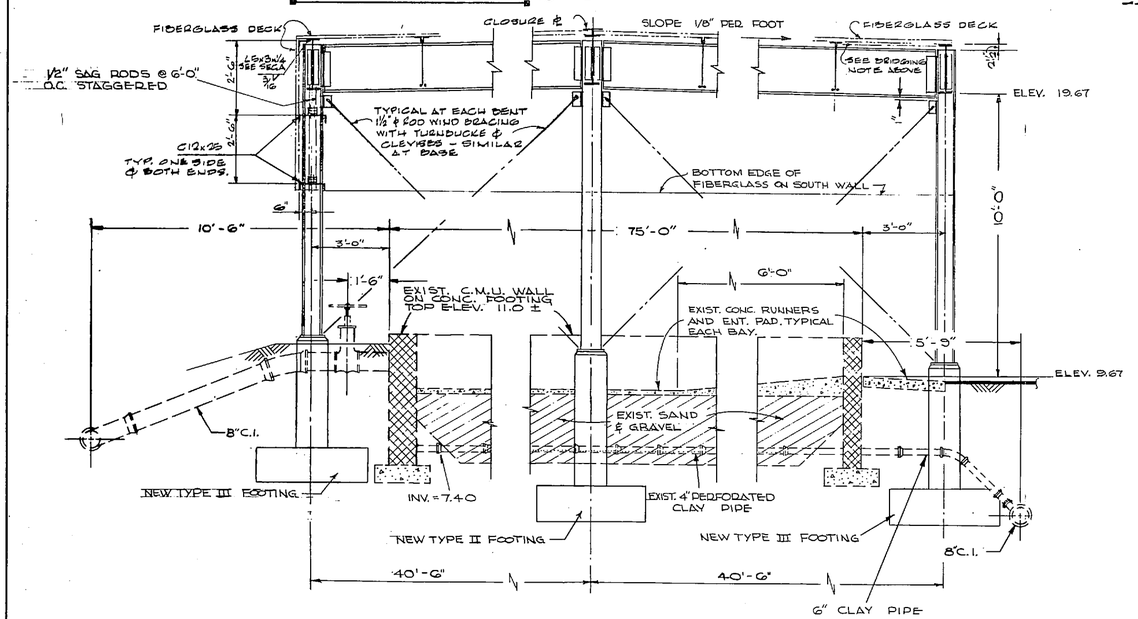
FOUNDATION PLAN - 1/16" = 1'-0"

FOOTING-PIER SCHEDULE				
TYPE	W	D	BARS-A	BASE ⊕
I	6'-0"	1'-2"	14-#6	8 x 3/4 x 1'-2"
II	3'-6"	1'-0"	6-#4	8 x 3/4 x 1'-2"
III	3'-6"	1'-0"	6-#4	15 x 3/4 x 1'-3"
IV	4'-0"	1'-0"	8-#4	15 x 3/4 x 1'-3"

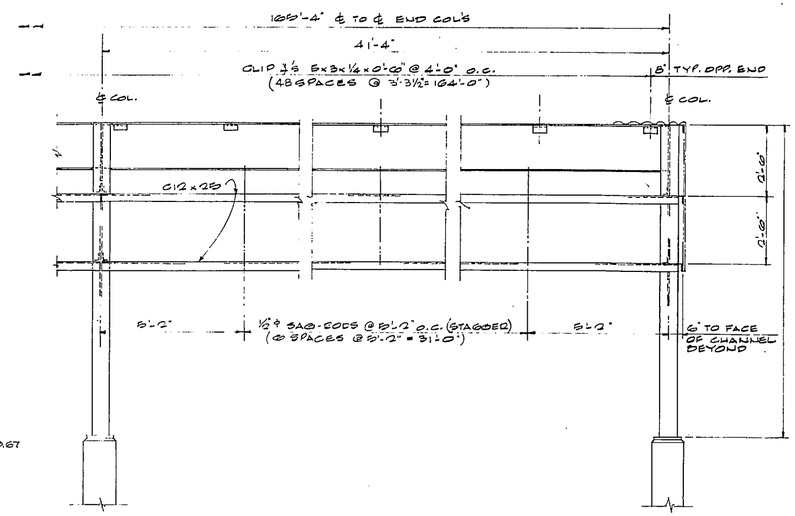


FOOTING - PIER DETAIL
NO SCALE

NOTE:
PROVIDE FIBERGLASS ON ROOF, NORTH, EAST, & SOUTH SIDES OF STRUCTURE. WEST SIDE OPEN.



SECTION B/4047
SCALE: 1/2" = 1'-0"
(TYPICAL BENT - 5 REQUIRED)



ELEVATION A-A
SCALE: 1/2" = 1'-0"

NOTE:
CONTRACTOR SHALL PROVIDE NEW CONCRETE BLOCK, PIPING, CONCRETE, SAND & GRAVEL AND OTHER WORK AND MATERIALS TO REPAIR EXIST. STRUCTURES DAMAGED OR REMOVED BY THE CONTRACTOR. WHEN EXCAVATING THE EXISTING SAND & GRAVEL, TRENCH WALLS SHALL BE KEPT VERTICAL WITH SHEETING. ALL SAND AND GRAVEL DISTURBED SHALL BE REPAIRED WITH NEW MATERIALS AS FOLLOWS:

TOP LAYER - 6" SAND 0.3 TO 0.5 MM.
3" GRAVEL 1/8" TO 1/4"
3" GRAVEL 1/4" TO 3/4"
BOTTOM LAYER - 18" GRAVEL 3/4" TO 1 1/2"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

GRAPHIC SCALE
1/16" = 1'-0": 10' 0' 10' 20' 30' 40' 50' 60' 70' 80'
1/2" = 1'-0": 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

SLUDGE BEDS
STRUCTURAL DETAILS

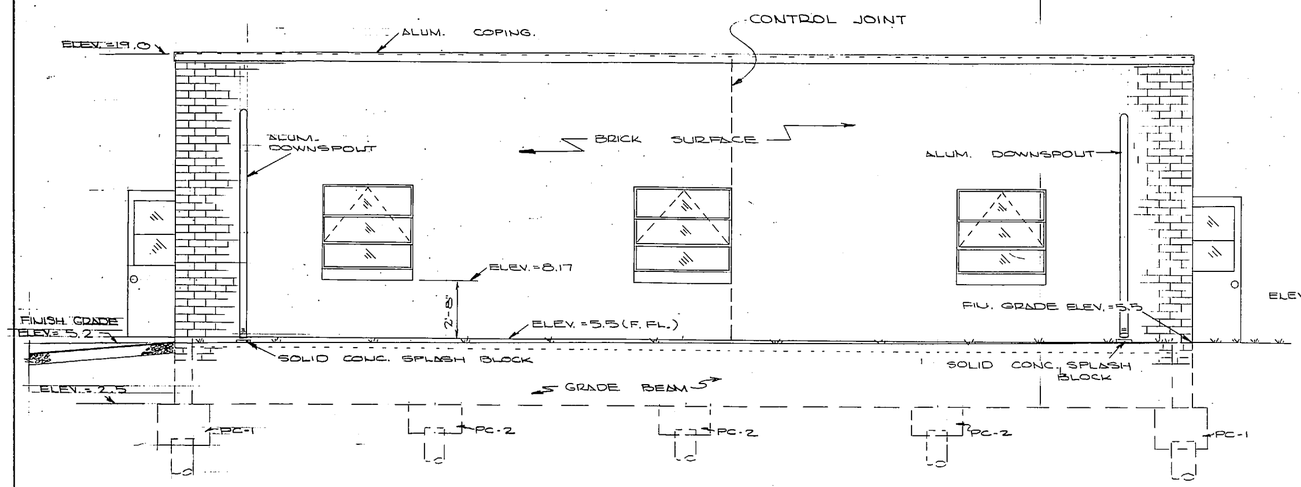
DES. M.L.E. DR. C.L. / DD. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.L.
SUBMITTED BY: J.K. Timmons — DATE 9/12/74
FIRM MEMBER — PRINCIPAL
EFD: RVD — ND: DIR
APPROVED: 7/23/74 — DATE
OFFICER-IN-CHARGE
APPROVED: 14 NOV 1974 — DATE
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

SIZE	CODE IDENT. NO.	DRAWING NO.
F	80091	4016947
	CONTR. CONTR. NO.	N62470-73-B-1155
SCALE AS SHOWN	SPEC. 05-73-1155	SHEET 61 of 83

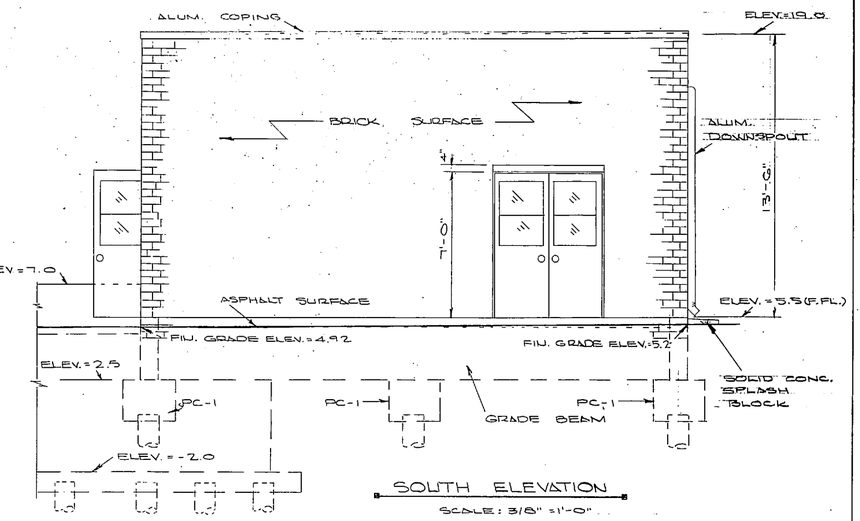
E.F.D. NO. 116947

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



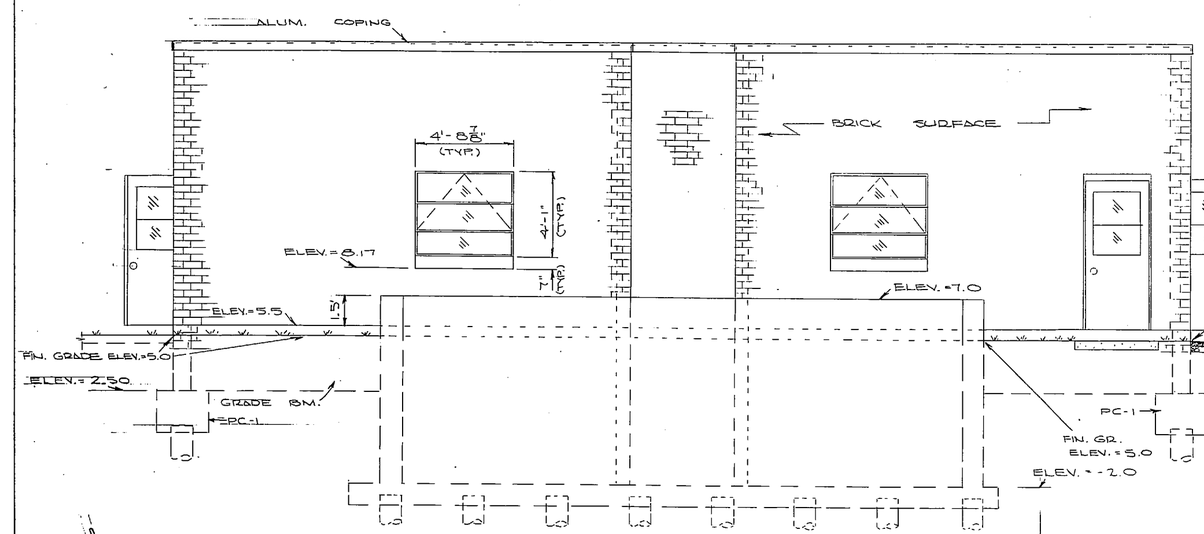
EAST ELEVATION

SCALE: 3/8"=1'-0"



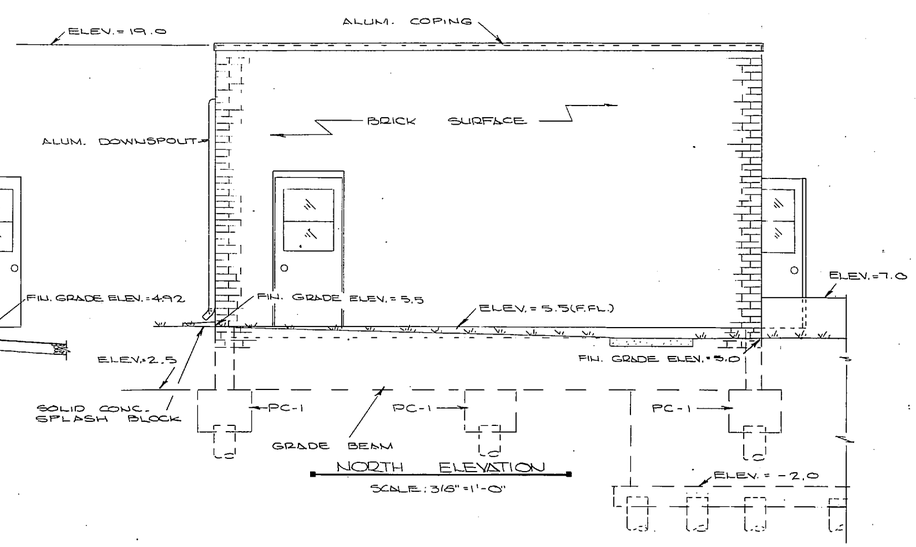
SOUTH ELEVATION

SCALE: 3/8"=1'-0"



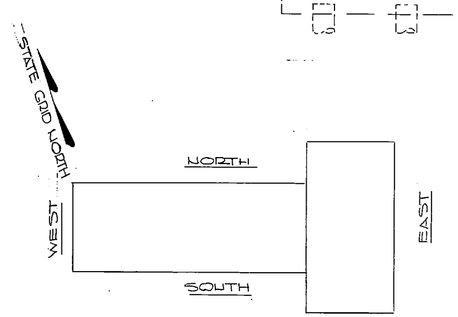
WEST ELEVATION

SCALE: 3/8"=1'-0"



NORTH ELEVATION

SCALE: 3/8"=1'-0"



PLAN

NO SCALE

GRAPHIC SCALE

3/8"=1'-0"

1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10' 11' 12' 13' 14'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

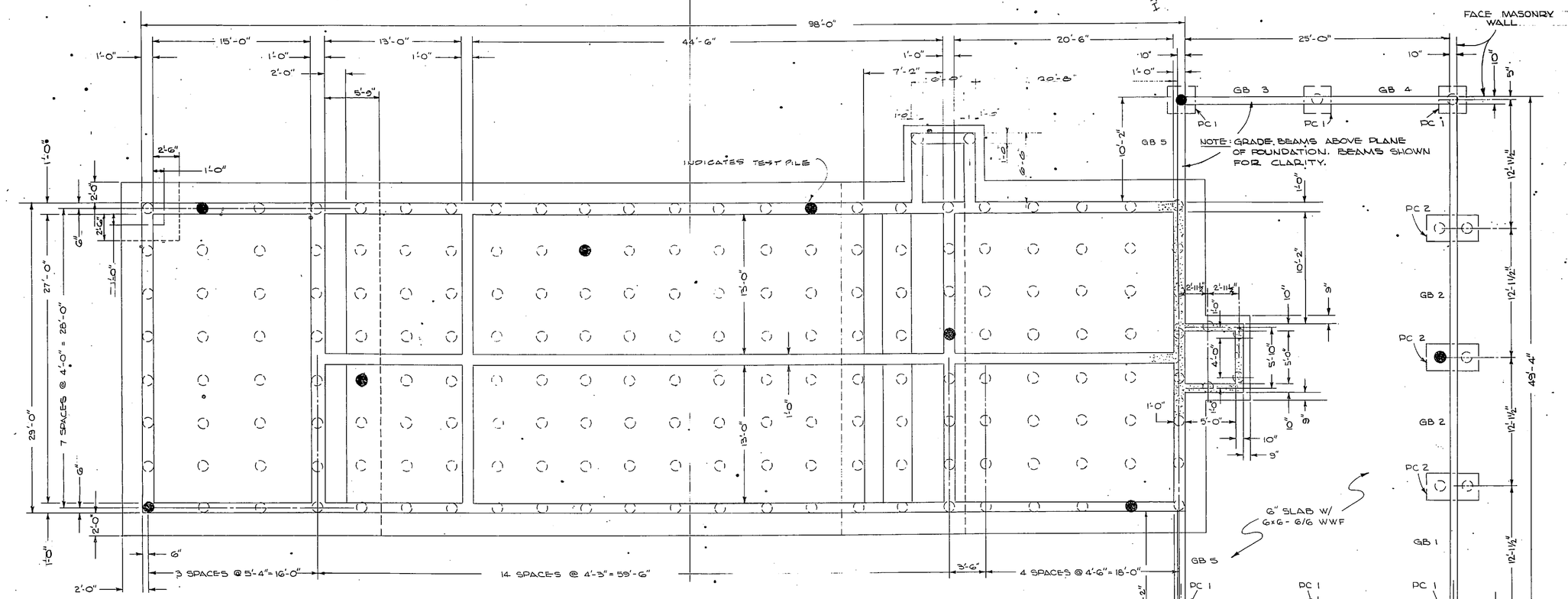
NORTH CAROLINA REGISTERED PROFESSIONAL SEAL X 4277 ENGINEER J. K. TIMMONS

J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — ATLANTIC DIVISION — NAVAL STATION — NORFOLK, VA.
DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.	NEW RIVER MARINE CORPS AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.	UTILITY EXPANSION
SUBMITTED BY: J. H. Hall DATE 7/12/74	SEWAGE TREATMENT PLANT ELEVATIONS
FIRM MEMBER PRINCIPAL	
EFD NCE RVD.	
HD NCE DIR.	
APPROVED: DATE 7/23/74	
OFFICER-IN-CHARGE	
APPROVED: DATE 8 NOV 1974	
FOR EFD FOR COMMANDER NAVFAC	

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016948
		CONSTR. CONTR. NO. [illegible]
SCALE AS SHOWN	SPEC. [illegible]	SHEET 62 of 83

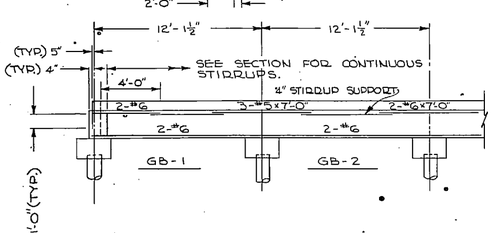
E.F.D. NO. 116948

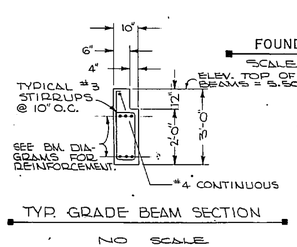
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



FOUNDATION PLAN

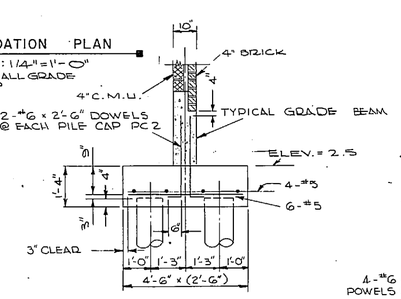
SCALE: 1/4" = 1'-0"





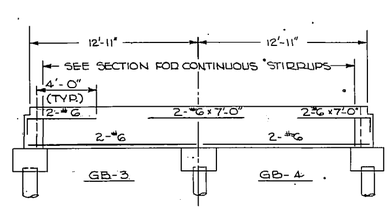
TYP. GRADE BEAM SECTION

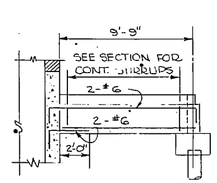
NO SCALE



PILE CAP - PC 2

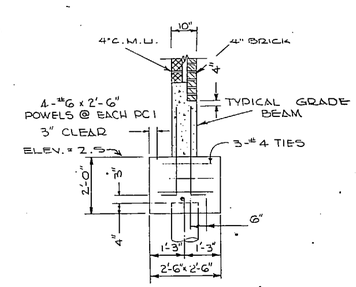
NO SCALE





TYPICAL GRADE BEAMS

NO SCALE



PILE CAP - PC 1

NO SCALE

GRAPHIC SCALE

1/4" = 1'-0" 5' 0' 5' 10' 15'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

DES. M.L.E. DR. C.A. / DB. CHK. M.L.E.
PROJ. MGR. M.L.E. / SR. CH. ENGR. J.H.H.
SUBMITTED BY: M. L. Eck — DATE 5/12/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE 7/29/74
OFFICER IN CHARGE
APPROVED — DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

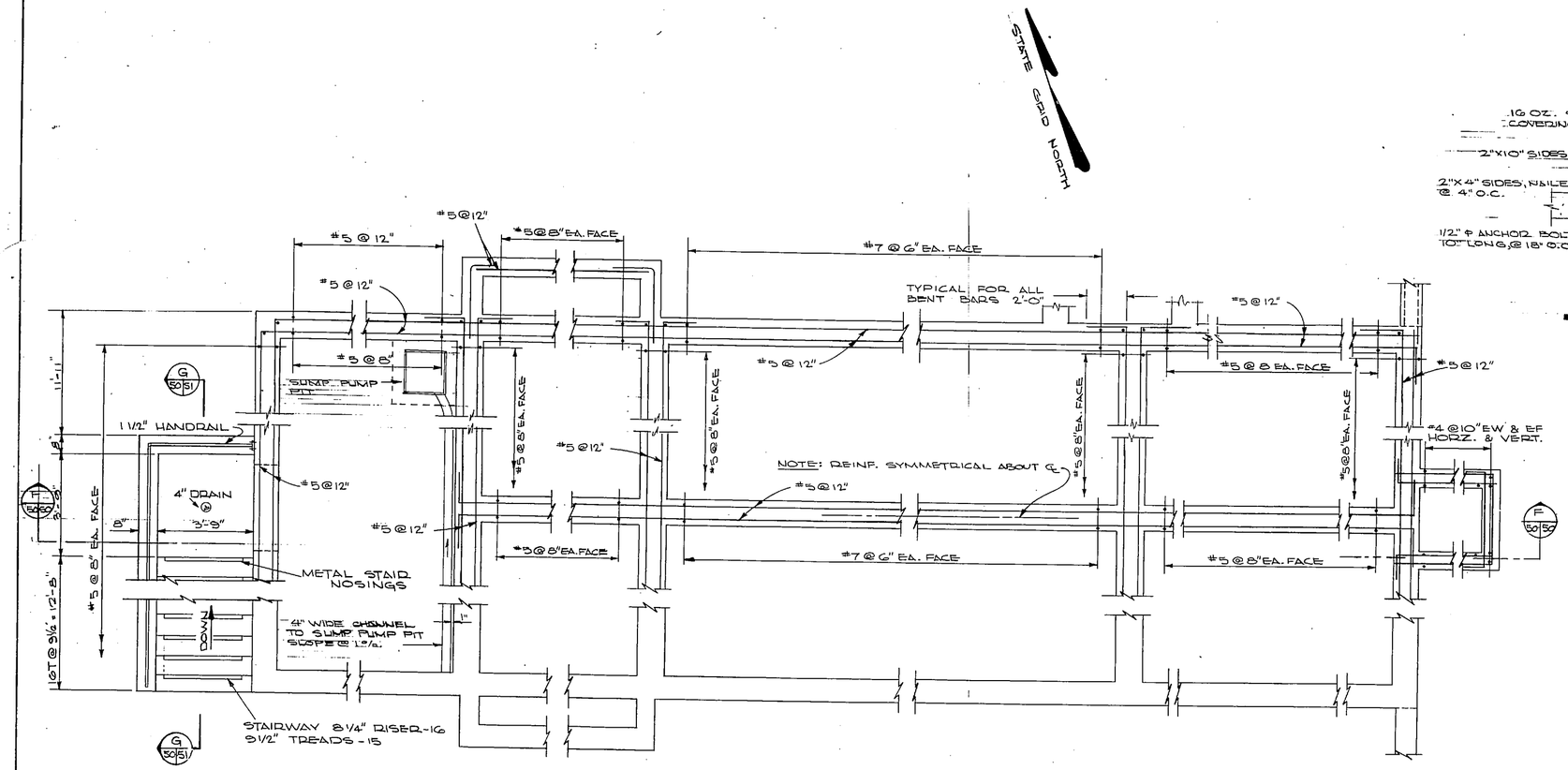
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 Engineer K. TIMMONS

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

SEWAGE TREATMENT PLANT
FOUNDATION

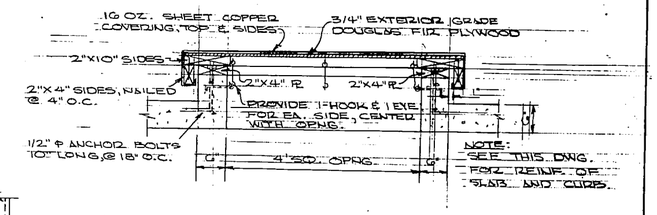
SIZE: F — CODE IDENT. NO.: 80091 — NAVFAC DRAWING NO.: 4016949
CONTR. CONST. NO.: N62470-74-B-1155
SCALE: AS SHOWN — SPEC. 05-74-155 — SHEET 63 OF 83
E.F.D. NO. 116949

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



PLAN - WALL REINFORCING

SCALE: 1/2" = 1'-0"

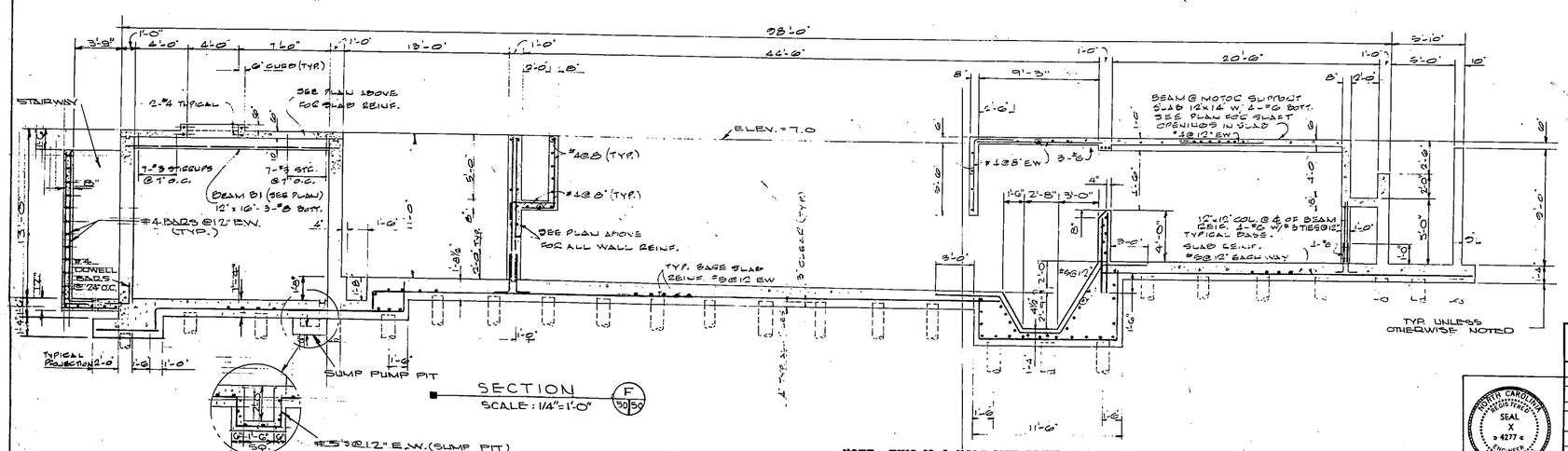


HATCH COVER DETAIL-FILTER PUMP AREA

NO SCALE

GENERAL NOTES STRUCTURAL:

1. LOADING:
   a) ROOF - 20 PSF
   b) CONTROL & PUMP AREA - 150 PSF
   c) EARTHQUAKE - ZONE 1
   d) DESIGN WIND VELOCITY 115 MPH
2. WORKING STRESSES:
   a) CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
   b) REINFORCING STEEL SHALL BE ASTM A-615 GR. 40
   c) STRUCTURAL STEEL SHALL BE ASTM A-36
3. FOUNDATIONS:
   a) ALLOWABLE SOIL BEARING PRESSURE 2000 PSF.
   b) DESIGN PILE CAPACITY - 10 TONS
   c) PILE BID LENGTH - 19'.
   d) FOR FILL AND/OR BACKFILL ON WHICH FLOOR SLABS ARE TO REST USE SAND, CRUSHED STONE OR GRAVEL. PUDDLE SAND IF USED.
   e) ALL WALL & COLUMN FOOTINGS SHALL REST ON UNDISTURBED EARTH UNLESS OTHERWISE SHOWN.
4. STRUCTURAL STEEL:
   a) ALL CONNECTIONS SHALL BE AISC FRAMED BEAM CONNECTIONS USING ASTM A-325 BOLTS WITH THREADS EXCLUDED FROM SHEAR PLANE.
   b) ALL JOIST, BEAMS, LINTELS & BEAM BEARING PLATES RESTING ON MASONRY SHALL BEAR ON SOLID CONCRETE BLOCK OR ON BRICK AT LEAST THREE COURSES HIGH.
   c) WELDS SHALL BE MADE USING E-70 LOW HYDROGEN ELECTRODES.
   d) ANCHOR BOLTS SHALL BE ASTM A-307
   e) OPEN WEB STEEL JOIST SHALL CONFORM TO SPECIFICATIONS OF STEEL JOIST INSTITUTE.
5. CONCRETE:
   a) CONCRETE COVER FOR REINFORCING STEEL TO BE IN ACCORDANCE WITH THE ACI CODE.
   b) ALL FLOOR SLABS & WALLS ON GRADE SHALL BE REINFORCED WITH 6x6-6/6 MESH UNLESS NOTED.
6. MASONRY:
   a) EXTERIOR CONCRETE MASONRY WALLS ARE CONSIDERED TO BE STRUCTURAL MASONRY W/ COMPRESSIVE STRENGTH OF 1000 PSI W/ TYPE M OR S MORTAR.
   b) TIE WYTHES WITH HORIZONTAL REINFORCING.
   c) PRECAST CONCRETE LINTELS, STRENGTH 3000 PSI AT 28 DAYS, SHALL BE PROVIDED OVER ALL OPENINGS MORE THAN 8' SPAN WHETHER OR NOT SHOWN OR DETAILED. LINTELS SHALL BE SAME THICKNESS AS WALLS, 7 5/8" DEEP UNLESS OTHERWISE SHOWN, AND 1'-0" LONGER THAN MASONRY OPENINGS. REINFORCE WITH ONE #4 TOP & BOTTOM FOR EACH NOMINAL 4" OF WALL THICKNESS OR FRACTION THEREOF.



SECTION

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

1/4" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA

UTILITY EXPANSION

SEWAGE TREATMENT PLANT
STRUCTURAL

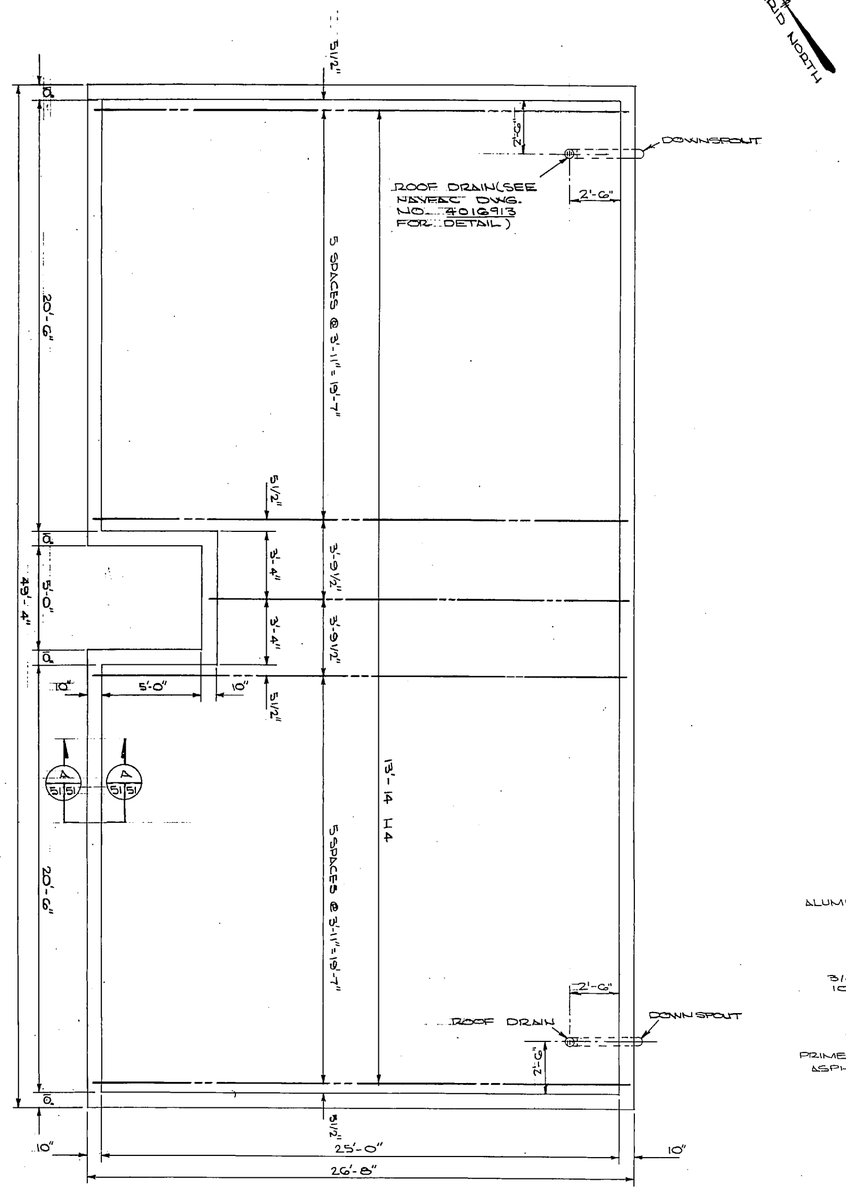
DES. M.L.B./D.R.C.L./D.R.E./H.K.M.L.B.
PROJ. MGR. M.L.B. CH. ENGR. J.H.H.
SUBMITTED BY: M. L. Blue DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD
HD DIR
APPROVED DATE
OFFICER-IN CHARGE
APPROVED DATE 4 Oct 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 X ENGINEER J. K. TIMMONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016950
		CONSTR. CONTR. NO. N62470-74-B-1155
SCALE AS SHOWN	SPEC. 05-73-3	SHEET 64 # 83

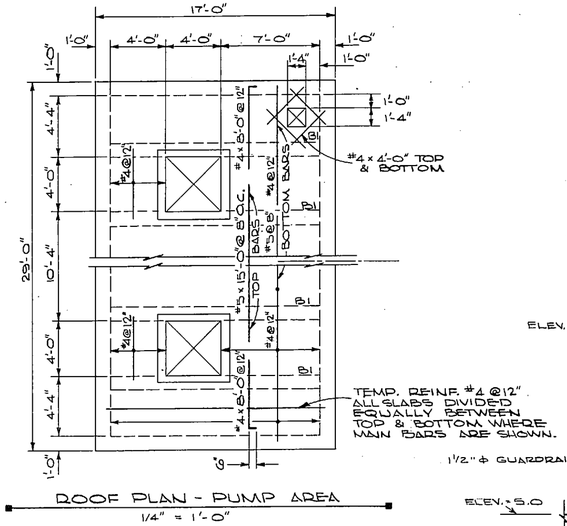
E.F.D. NO. 116950

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



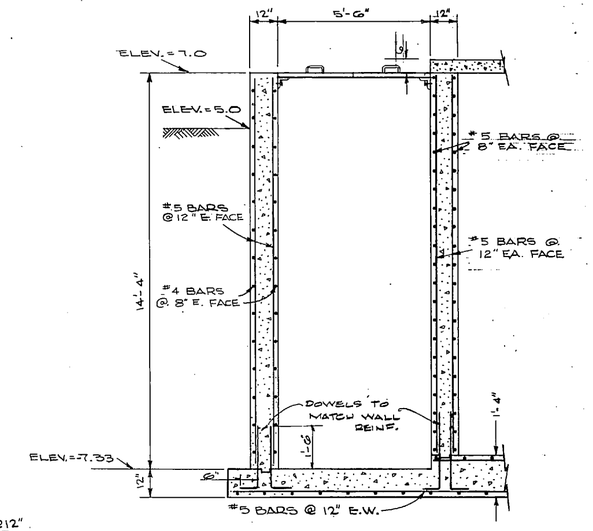
ROOF FRAMING PLAN

SCALE: 3/8" = 1'-0"



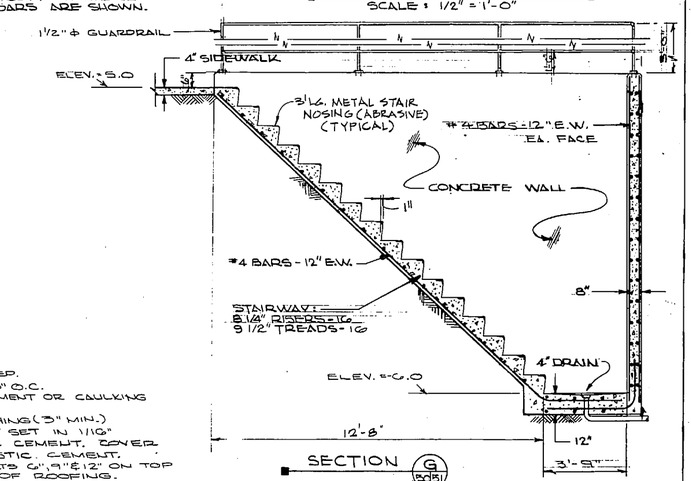
ROOF PLAN - PUMP AREA

1/4" = 1'-0"



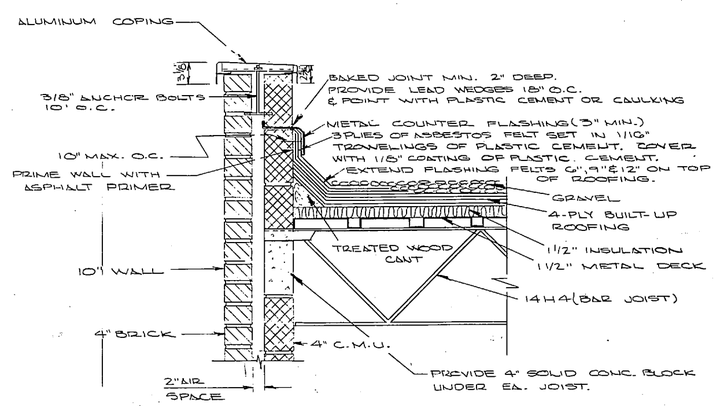
SLUDGE VALVE PIT

SCALE: 1/2" = 1'-0"



SECTION G 51/51

SCALE: 1/2" = 1'-0"



SECTION A 51/51

SCALE: 1½" = 1'-0"

GRAPHIC SCALE

3/8" = 1'-0": 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10' 11' 12' 13' 14'

1/2" = 1'-0": 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

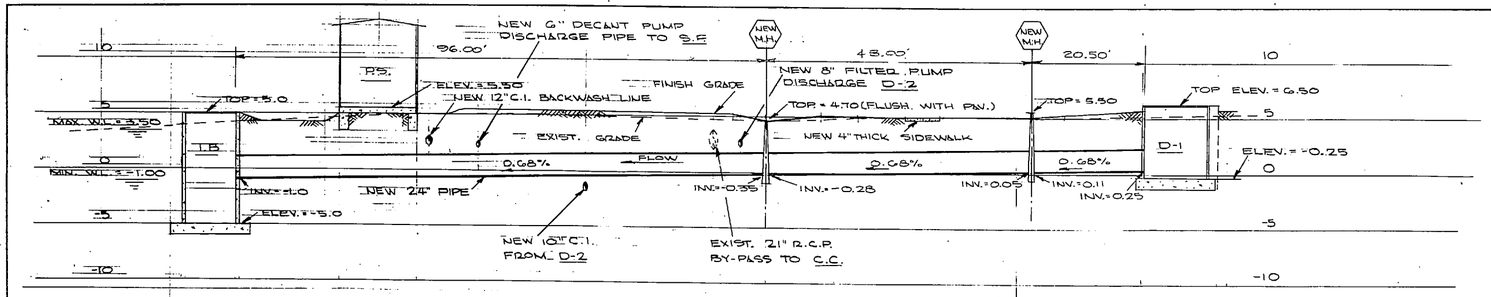
1 1/2" = 1'-0": 1' 9" 6" 3" 0" 1' 2' 3'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 PIONEER ENGINEERING & TIMMONS

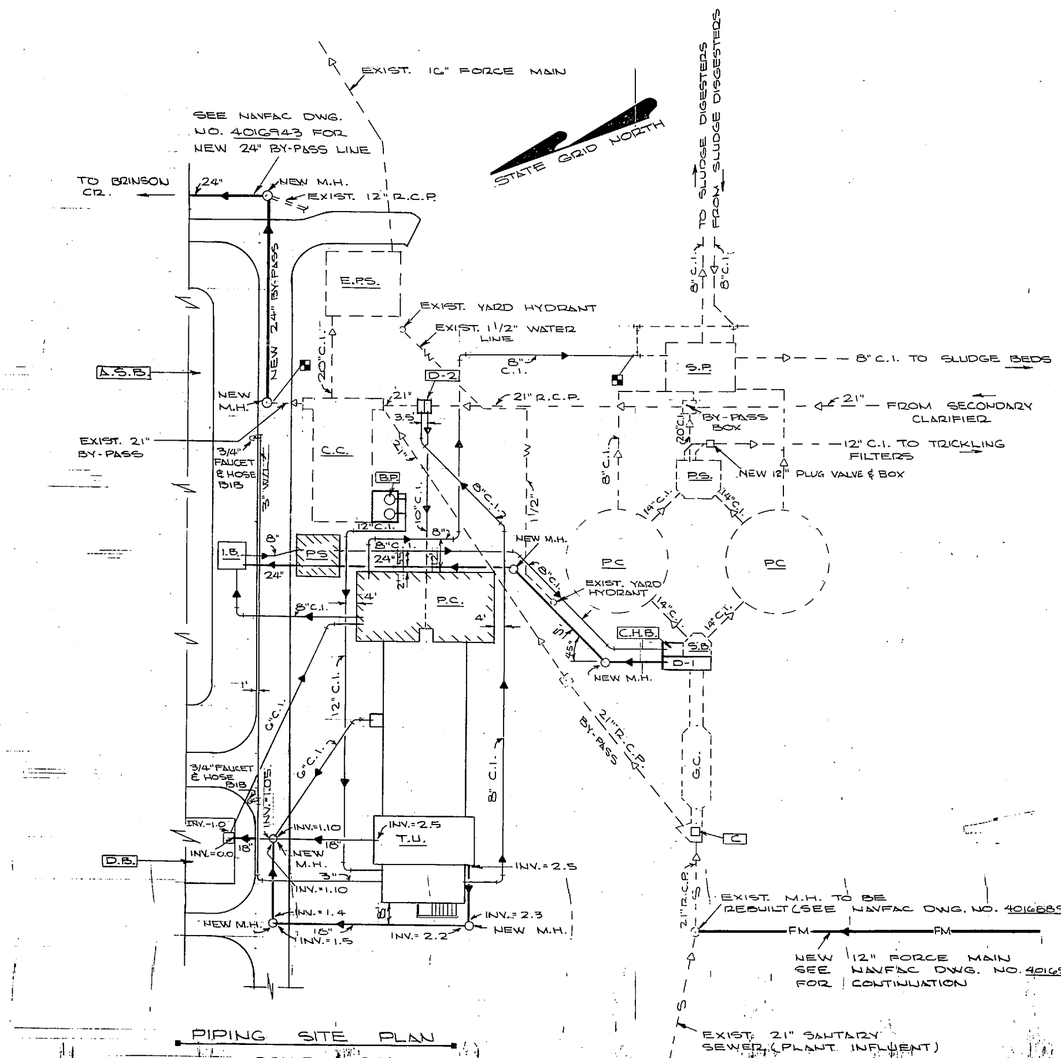
J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION — NORFOLK, VA.	
DES. M.L.E. DR. C.L. / D.B. CHK. M.L.E. PROJ. MGR. M.L.E. CH. ENGR. J.H.L. SUBMITTED BY: T. K. Ecc... DATE 9/12/74 FIRM MEMBER — PRINCIPAL EFD. ipm — RVD. [illegible] HD. — DIR. [illegible] APPROVED [illegible] DATE 7/24/74 OFFICER IN CHARGE APPROVED [illegible] DATE 6 NOV 1974 FOR EFD FOR COMMANDER NAVFAC	NEW RIVER MARINE CORPS AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA UTILITY EXPANSION SEWAGE TREATMENT PLANT ROOF FRAMING & DETAIL	
	SIZE F — CONT. INDEX NO. 80091	BAYTAC DRAWING NO. 4016951
		CONSTR. CONTR. NO. N62470-72-B-1155
	SCALE AS SHOWN — SPEC. 05-7[illegible]-55	SHEET 65 of 83

E.F.D. NO. 116951



PROFILE OF NEW 24" SURGE BASIN INFLUENT LINE

SCALE: V.-1"=5', H.-1"=10'



PIPING SITE PLAN

SCALE: 1"=20'

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

LEGEND

BROKEN LINES INDICATES EXISTING STRUCTURES OR PIPELINES.
SOLID LINES INDICATES PROPOSED STRUCTURES OR PIPELINES.

EXISTING STRUCTURES		NEW STRUCTURES	
G.C.	GRIT CHAMBER	C	COMMINUTOR
S.B.	SPLITTER BOX	D-1	DIVERSION BOX "1"
P.C.	PRIMARY CLARIFIER	A.S.B.	AERATED SURGE BASIN
P.S.	PUMP STATION	I.B.	INTAKE BASIN
S.P.	SLUDGE PUMPS	P.S.	PUMP STATION
E.P.S	EFFLUENT PUMP STA.	C.H.B.	CONSTANT HEAD BOX
C.C.	CHLORINE CONTACT	D-2	DIVERSION BOX "2"
		P-C	PUMP AND CONTROL BUILD.
		T.U.	TERTIARY TREATMENT UNIT
		D.B.	DECANT BASIN
		B.P.	BACKWASH PUMPS

GRAPHIC SCALE

1"=20' 25' 0' 25' 50' 75'

1"=5' 15' 0' 5' 10' 15' 20'

1"=10' 10' 5' 0' 10' 20' 30' 40' 50'

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

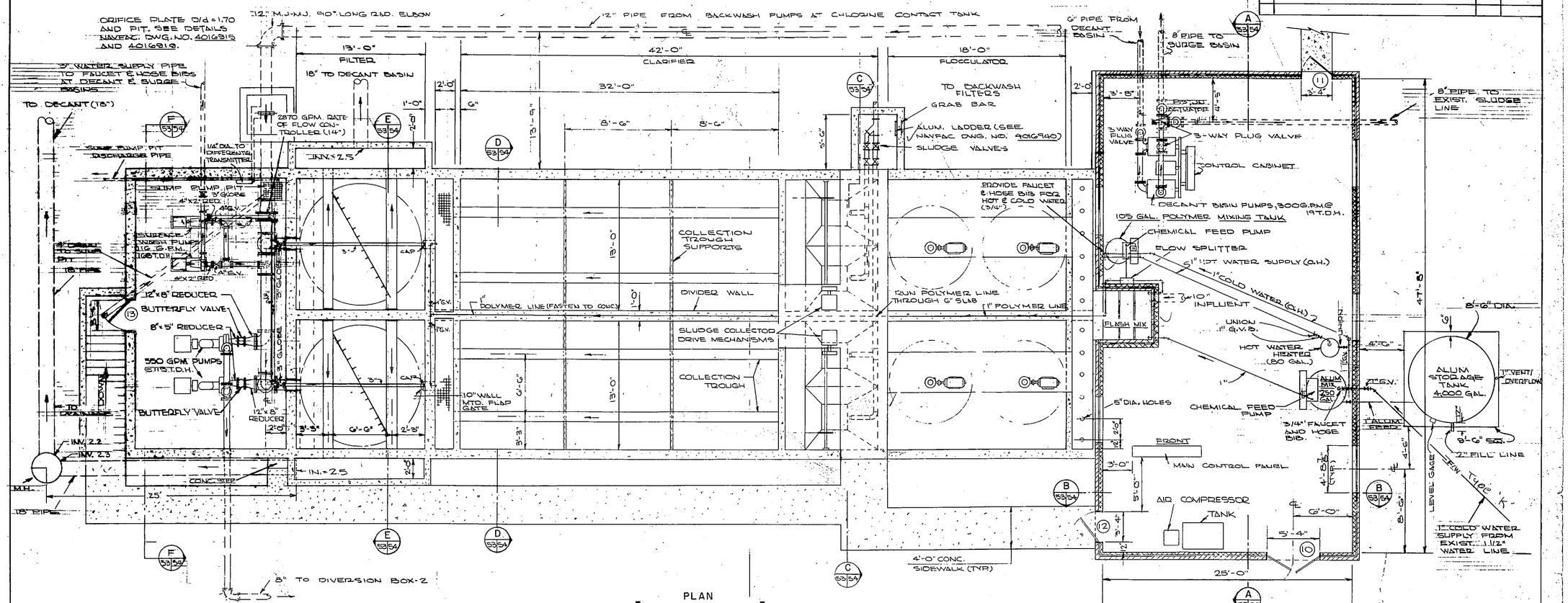
NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION
SEWAGE TREATMENT PLANT PIPING

DES. M.L.E. DR. C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.H.H.
SUBMITTED BY: DATE 9/12/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE 7-29-74
DESIGNER-IN CHARGE
APPROVED — DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

SIZE F — CODE IDENT. NO. 80091 — NAVFAC DRAWING NO. 4016952
CONSTR. CONTR. NO. N-[illegible] 73 B-1155
SCALE AS SHOWN — SPEC. [illegible] — SHEET 66 of 83
E.F.D. NO. 116952

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

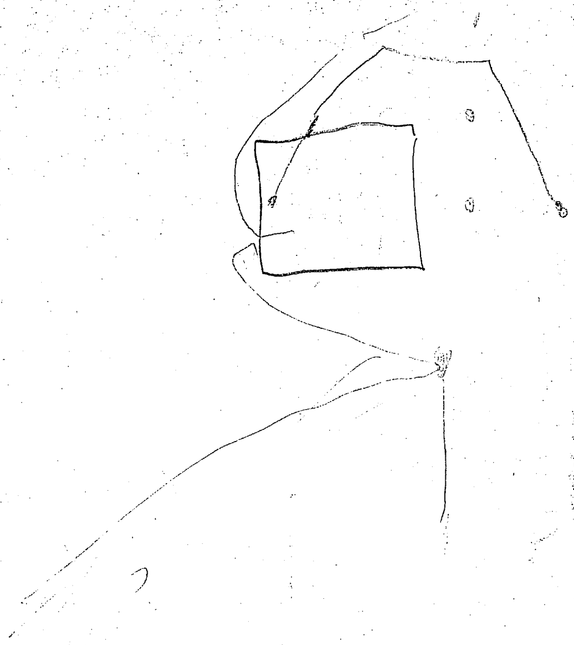
DES. M.L.L./B.R.C.L./D.B. CHK. M.L.E.
PROJ. MGR. M.L.L. ELCH. ENGR. J.H.H.
SUBMITTED BY: DATE 9/12/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE 9/19/74
OFFICER IN CHARGE
APPROVED — DATE 6 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER J. K. TIMMONS

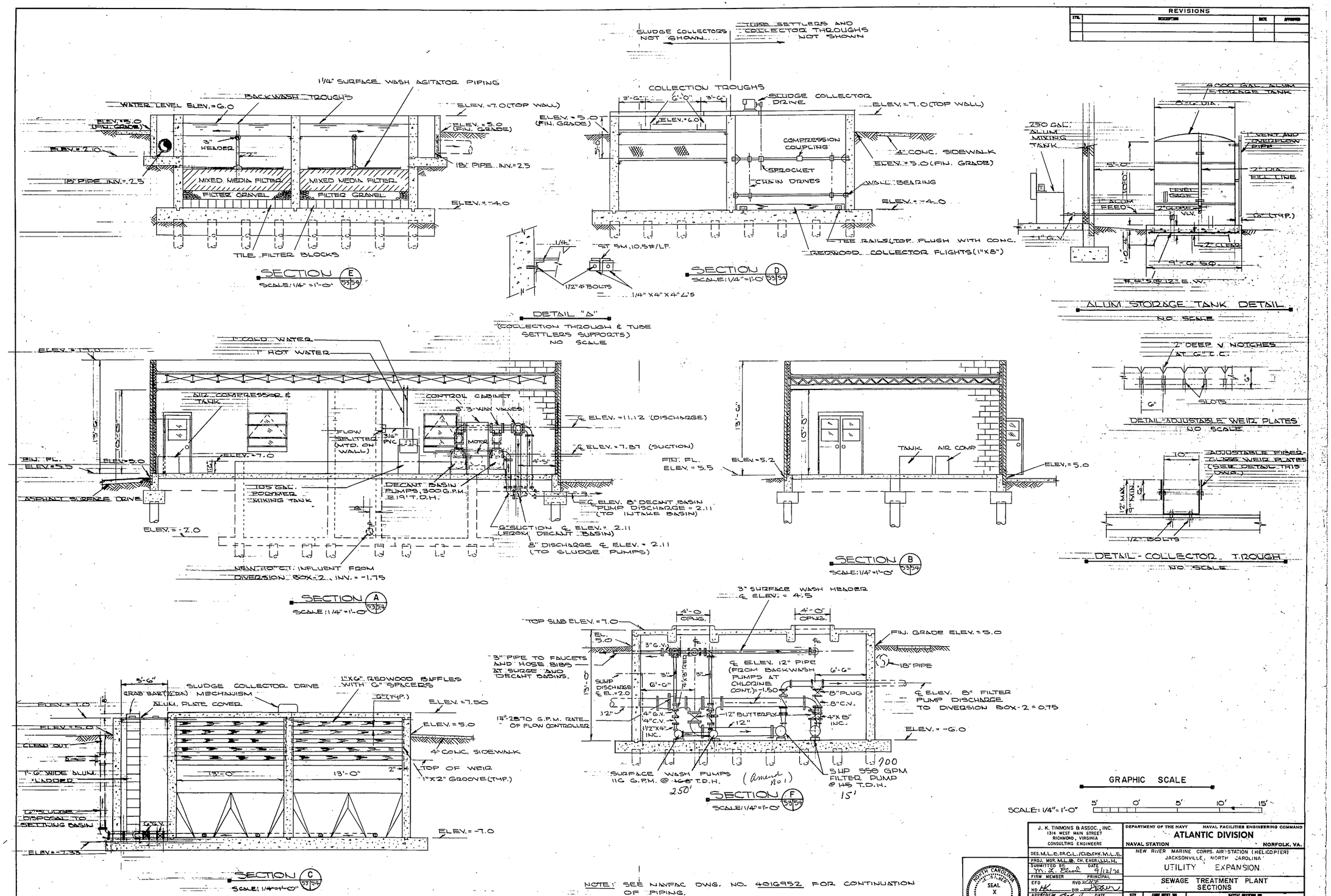
CLARIFIER-FILTER
PLAN & SECTION

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016953

CONTR. CONTR. NO. N62470-73-B-1155
SCALE AS SHOWN — SPEC. 00-73-1155 — SHEET 67 of 83
E.F.D. NO. 116953



REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

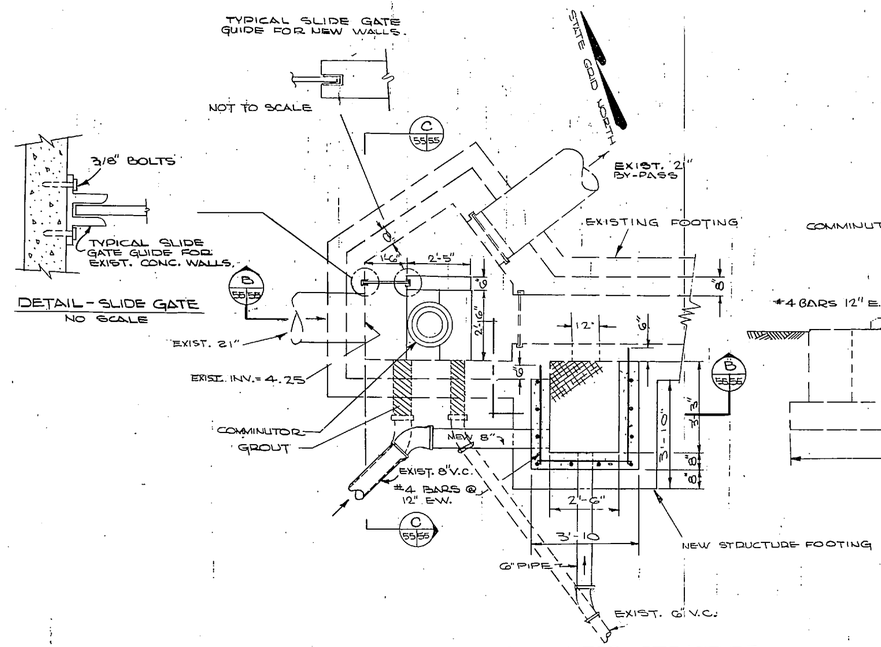


NOTE: SEE NAVFAC DWG. NO. 4016952 FOR CONTINUATION OF PIPING.

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

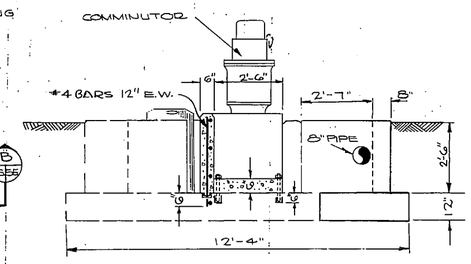
J. K. TIMMONS & ASSOC., INC. 1314 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION		
	NAVAL STATION NORFOLK, VA.		
DES. M.L.E. DR. C.L. / D.D. CHK. M.L.E.	NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER) JACKSONVILLE, NORTH CAROLINA		
PROJ. MGR. M.L.E. CH. ENGR. L.L.H.	UTILITY EXPANSION		
SUBMITTED BY: M. L. Elson DATE 9/12/74	SEWAGE TREATMENT PLANT SECTIONS		
FIRM MEMBER PRINCIPAL			
EFD RVD HK DIR			
HD HK DIR			
APPROVED DATE 7/29/74	SIZE F	CODE IDENT. NO. 80091	NAVFAC DRAWING NO. 4016954
OFFICER IN CHARGE			
APPROVED DATE NOV 1974		CONTR. CONTR. NO. N62470-73-B-1155	
FOR EFD FOR COMMANDER NAVFAC	SCALE AS SHOWN	SPEC. CS-73-1155	SHEET 68 of 83
			E.F.D. NO. 116954

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



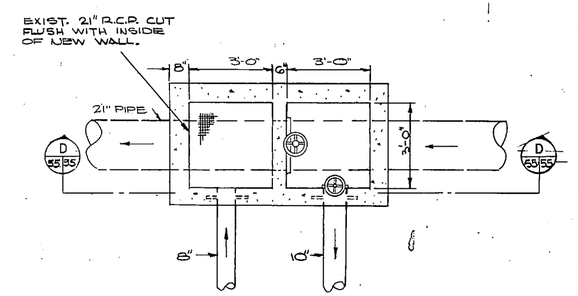
PLAN - NEW COMMINUTOR STRUCTURE

SCALE: 1/2" = 1'-0".



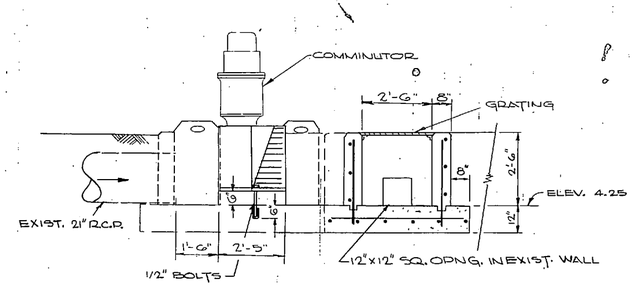
SECTION

SCALE: 1/2" = 1'-0"



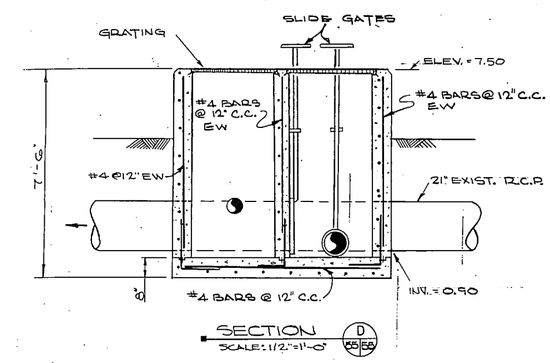
BYPASS BOX TO TERTIARY FILTER

SCALE: 1/2" = 1'-0"



SECTION

SCALE: 1/2" = 1'-0"



SECTION

SCALE: 1/2" = 1'-0"

GRAPHIC SCALE

1/2" = 1'-0"

NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY ○ NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.

DES. M.L.E. DR. C.L. / D.B. CHK. M.L.E.
PROJ. MGR. M.L. ECH. ENGR. J.L.H.
SUBMITTED BY: DATE 9/12/74
FIRM MEMBER PRINCIPAL
EFD RVD HD DATE
APPROVED BY DATE 7/25/74
OFFICER IN CHARGE
APPROVED BY DATE 1 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 J. K. TIMMONS

NEW RIVER MARINE CORPS. AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILITY EXPANSION

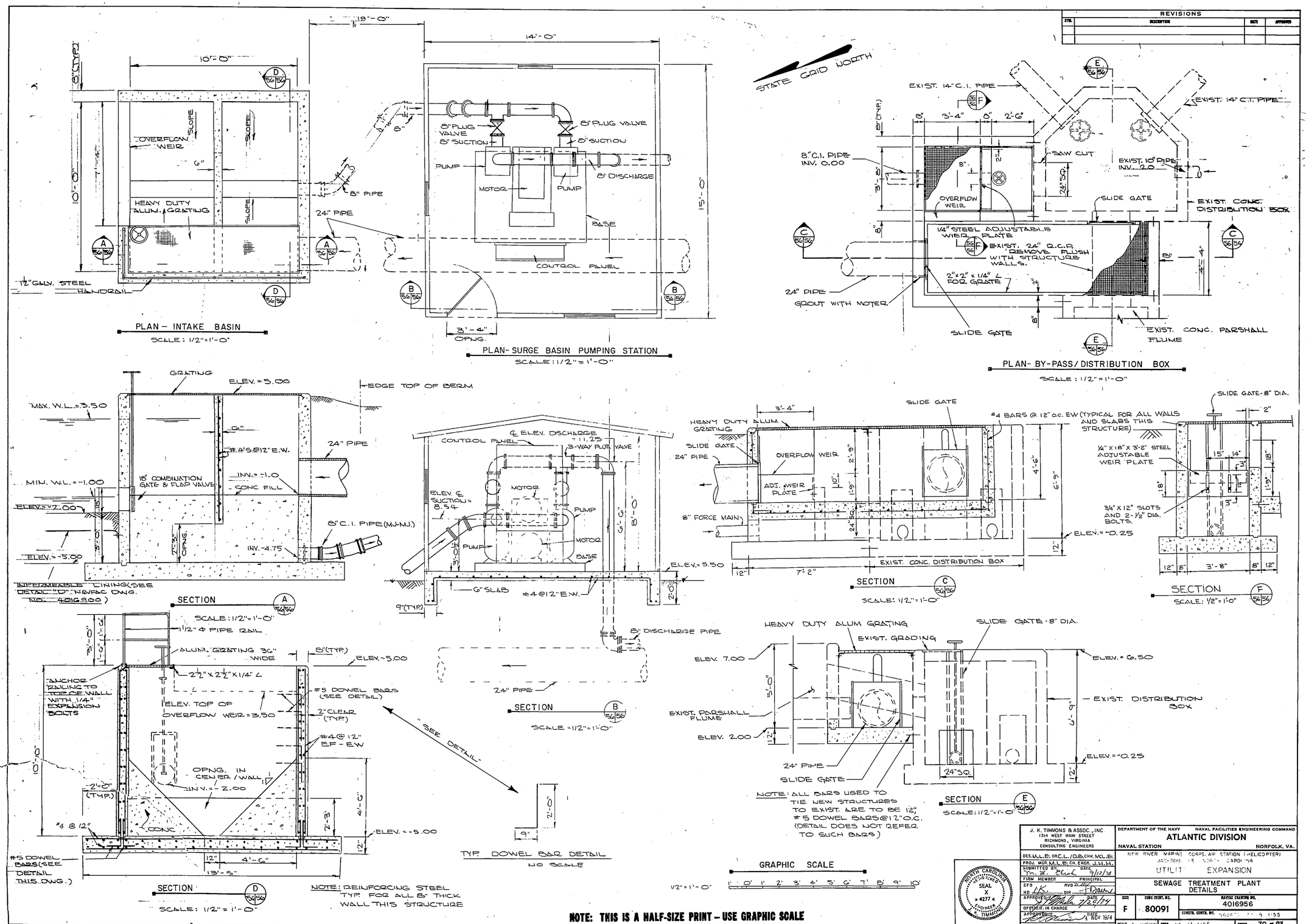
SEWAGE TREATMENT PLANT
DETAILS

SIZE	CONT. INSTRT. NO.	NAVFAC DRAWING NO.
F	80091	4016955
		CONSTR. CONTR. NO. N62470-...-B-1155

SCALE AS SHOWN SPEC. 05-73-... SHEET 69 of 83

E.F.D. NO. 116955

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



NOTE: THIS IS A HALF-SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

NEW RIVER MARINE CORPS AIR STATION (HELICOPTER)
JACKSONVILLE, NORTH CAROLINA
UTILIT EXPANSION

SEWAGE TREATMENT PLANT
DETAILS

DES. M.L.E. DRC.L. / D.B. CHK. M.L.E.
PROJ. MGR. M.L.E. CH. ENGR. J.J.L.J.
SUBMITTED BY: M. K. Black DATE 9/12/74
FIRM MEMBER — PRINCIPAL
EFD RVD — ND — DIR
APPROVED — DATE
OFFICER IN CHARGE
APPROVED — DATE 4 NOV 1974
FOR EFD FOR COMMANDER NAVFAC

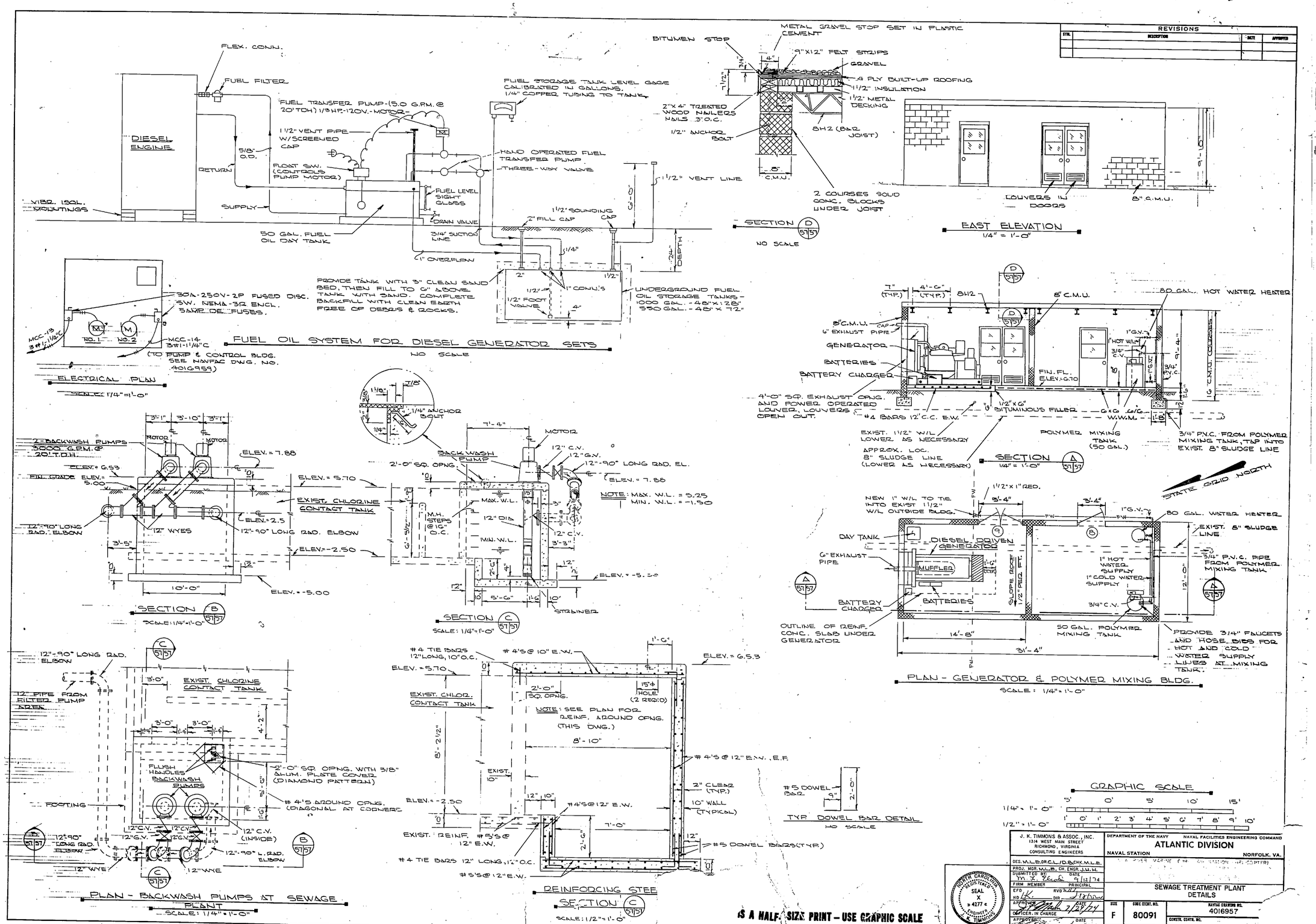
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 4277 FINISHER J. TIMMONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016956
	CONSTR. CONTR. NO.	N62470-75-B-1155

SCALE AS SHOWN | SPEC. NO. N62470-75-B-1155 | SHEET 70 of 83

E.F.D. NO. 116956

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



IS A HALF SIZE PRINT – USE GRAPHIC SCALE

J. K. TIMMONS & ASSOC., INC.
1314 WEST MAIN STREET
RICHMOND, VIRGINIA
CONSULTING ENGINEERS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.

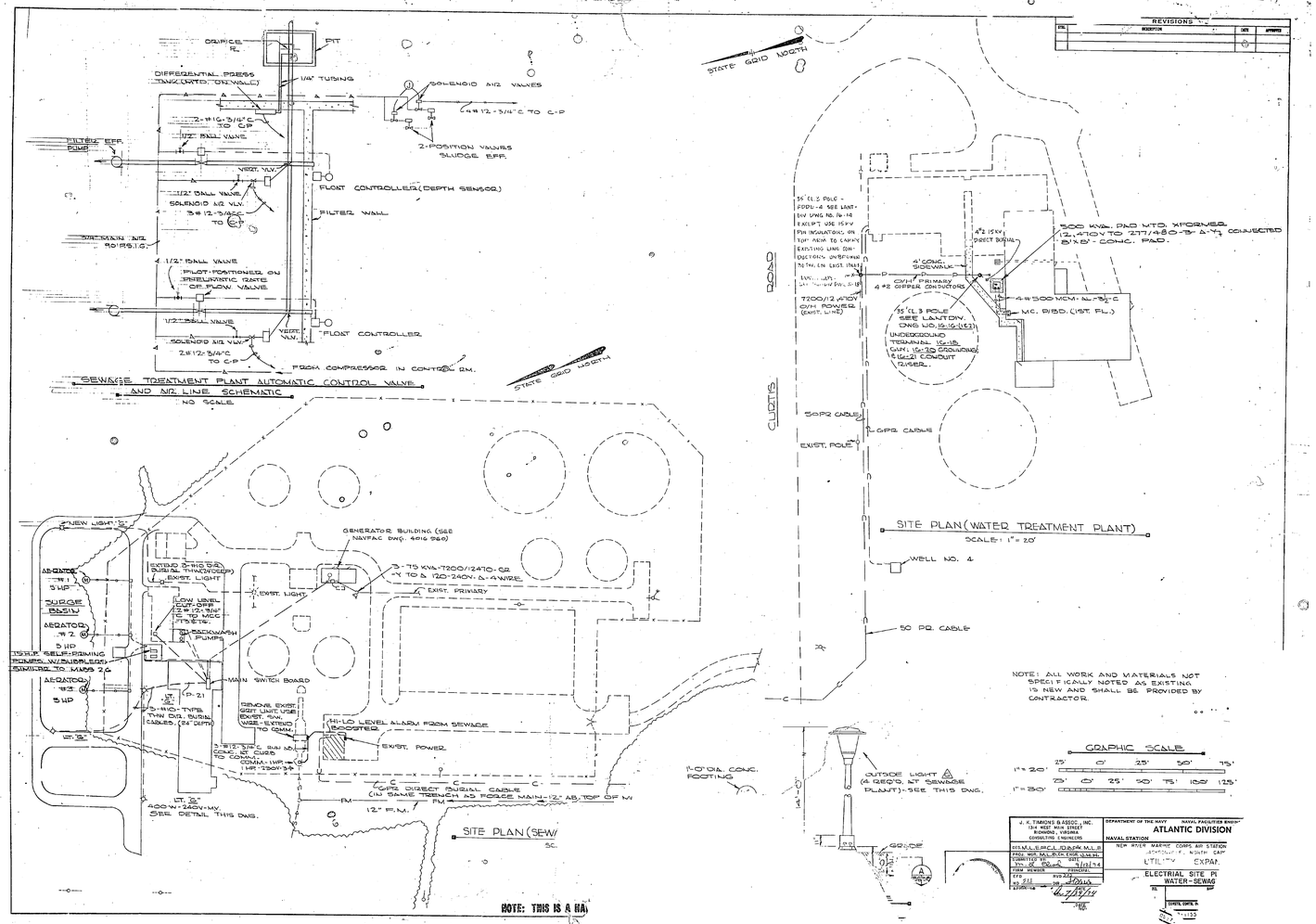
DES. M.L.B. DR. C.L./D.B. CHK. M.L.B.
PROJ. MGR. M.L.B. CH. ENGR. J.J.H.
SUBMITTED BY: DATE 5/12/74
FIRM MEMBER — PRINCIPAL
EFD — RVD
HD — DIR
APPROVED — DATE 7/29/74
OFFICER IN CHARGE
APPROVED — DATE
CDR EFD FOR COMMANDER, NAVFAC

NORTH CAROLINA REGISTERED SEAL X 4277 ENGINEER K. TIMMONS

SEWAGE TREATMENT PLANT DETAILS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4016957

SCALE — SPEC. — SHEET 71


ORIFICE PL.
PIT
DIFFERENTIAL PRESS TANK (MTD. ON WALL)
1/4" TUBING
SOLENOID AIR VALVES
4-#12-3/4" C TO C-P
2-#16-3/4" C TO C-P
1/2" BALL VALVE
FILTER EFF. PUMP
VENT. VLV.
FLOAT CONTROLLER (DEPTH SENSOR)
1/2" BALL VALVE
SOLENOID AIR VLV.
3-#12-3/4" C TO C-P
FILTER WALL
STAT. MAIN AIR 80 PSIG.
1/2" BALL VALVE
PILOT-POSITIONED ON INTERMITTIC 12" GATE OR PLUG VALVE
1/2" BALL VALVE
SOLENOID AIR VLV.
2-#12-3/4" C TO C-P
VENT. VLV.
FLOAT CONTROLLER
FROM COMPRESSOR IN CONTROL RM.
SEWAGE TREATMENT PLANT AUTOMATIC CONTROL VALVE AND AIR LINE SCHEMATIC
NO SCALE
STATE GRID NORTH
STATE GRID NORTH
NEW LIGHT
AERATOR #1 5 HP
SURGE BASIN
AERATOR #2 5 HP
AERATOR #3 5 HP
15 H.P. SELF-PRIMING PUMPS W/SUBMERGED IMPELLERS
EXISTING TO MAPS 2A
EXTEND 2-#16 3/4 DUPLEX THW (DEEP) EXIST. LIGHT
LOW LEVEL CUT-OFF 2-#12-3/4" TO MCC (TYP.)
BACKWASH PUMPS
GENERATOR BUILDING (SEE NAVFAC DWG. 4016 926)
3-75 KVA-7200/12470-GR. Y TO Δ 120-240V. Δ-4 WIRE.
EXIST. LIGHT
EXIST. PRIMARY
MAIN SWITCH BOARD
REMOVE EXIST. EXIST UNIT USE EXIST. 4WW. WIRE-EXTEND TO COMM.
HI-LO LEVEL ALARM FROM SEWAGE BOOSTER
EXIST. POWER.
3-#12-3/4" C RUN MC CONCENT. CUBE TO CONN. COMM. 1 HP-120V. 1 HP-230V. 3Φ
GPR DIRECT BURIAL CABLE (IN SAME TRENCH AS FORCE MAIN-12" AB. TOP OF W
12" F.M.
400 W-240V-MV. SEE DETAIL THIS DWG.
SITE PLAN (SEWAGE)
NOTE: THIS IS A HA
35' CL 3 POLE - FOOD-4 SEE LANTDIV DWG NO. 16-14 EXCEPT USE 15 KV PIN INSULATORS ON TOP ARM TO CARRY EXISTING LINE CONDUCTORS OVERHEAD BETWEEN EXIST. INST.
7200/12,470V C/H POWER (EXIST. LINE)
4' CONC. SIDEWALK
C/H 1" PRIMARY 4 #2 COPPER CONDUCTORS
35' CL 3 POLE SEE LANTDIV DWG NO. 16-16 (SH 2)
UNDERGROUND TERMINAL 16-18 GUN. 16-20 GROUNDING 5 16-21 CONDUIT RISER.
4 #2 15 KV DIRECT BURIAL
500 KVA. PAD MTD. XFORMER. 12,470V TO 277/480-3Φ Δ-Y CONNECTED 8'X8' - CONC. PAD.
4-#500 MCM - AL 3Φ - C
M.C. PIBD. (1ST FL.)
ROAD
CURTIS
50 PR2 CABLE
6 PR2 CABLE
EXIST. POLE
SITE PLAN (WATER TREATMENT PLANT)
SCALE: 1" = 20'
WELL NO. 4
50 PR. CABLE
NOTE: ALL WORK AND MATERIALS NOT SPECIFICALLY NOTED AS EXISTING IS NEW AND SHALL BE PROVIDED BY CONTRACTOR.
GRAPHIC SCALE
1" = 20' 25' 0' 25' 50' 75'
1" = 50' 75' 0' 25' 50' 75' 100' 125'
1'-0" DIA. CONC. FOOTING
OUTSIDE LIGHT (4 REQ'D. AT SEWAGE PLANT) - SEE THIS DWG.
GROUND
REVISIONS
J. K. TIMMONS & ASSOC., INC. 134 WEST MAIN STREET RICHMOND, VIRGINIA CONSULTING ENGINEERS
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION
NEW RIVER MARINE CORPS AIR STATION JACKSONVILLE, NORTH CAROLINA
UTILITY EXPAN.
ELECTRICAL SITE PL WATER-SEWAG
SHEET SHEET 8
1"=125'